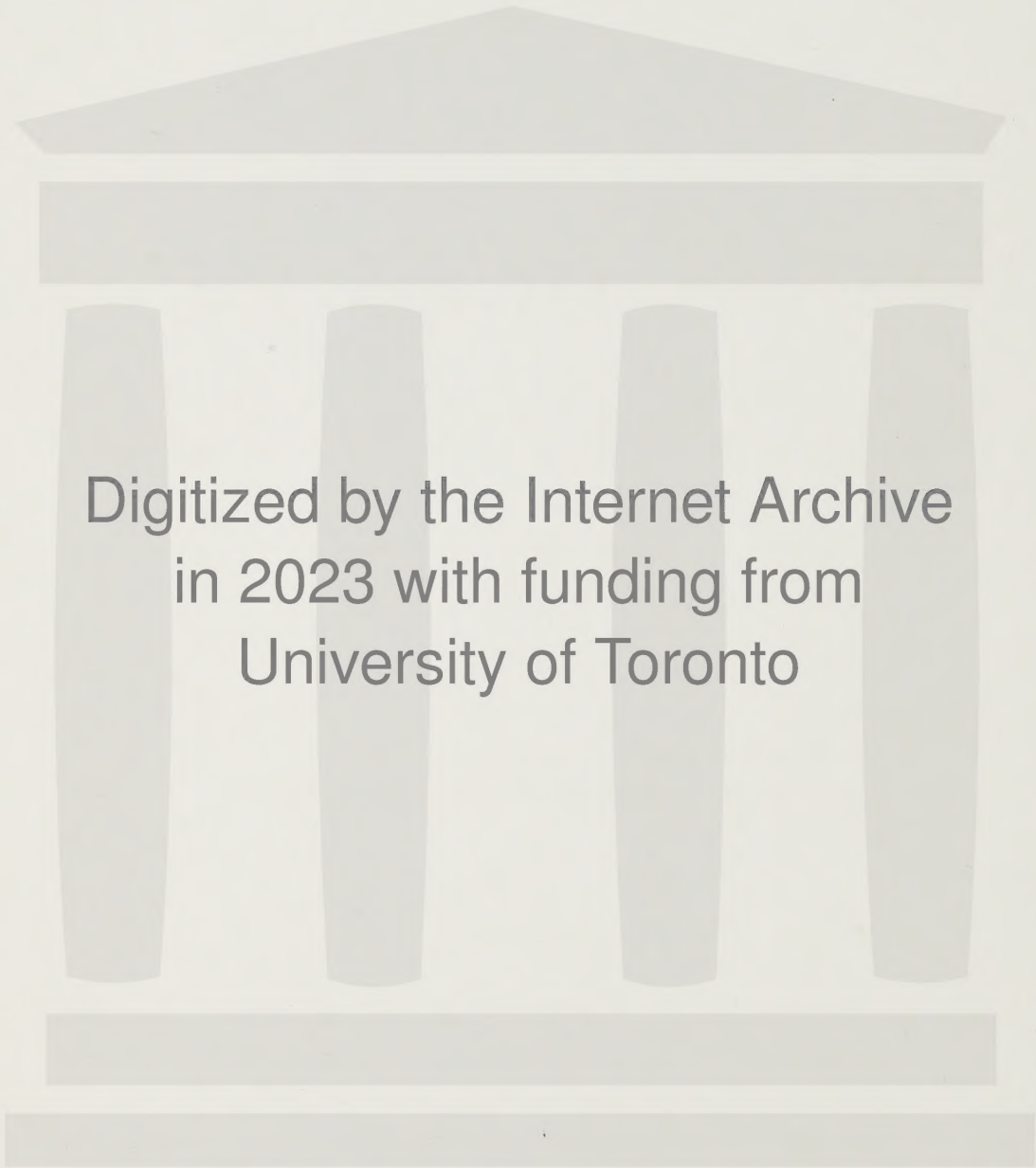
ROYAL COMMISSION ON HEALTH SERVICES

OVISION, DISTRIBUTION, AND COST OF DRUGS IN CANADA

DEPARTMENT OF NATIONAL HEALTH AND WELFARE
1964



CANADA

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PROVISION, DISTRIBUTION, AND COST OF DRUGS IN CANADA

Research and Statistics Division,
Department of National Health and Welfare

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FOREWORD

The Research and Statistics Division of the Department of National Health and Welfare is pleased to present to the Royal Commission on Health Services this report on the provision, distribution, and cost of drugs in Canada. It is hoped the study will be useful to the Commission.

On July 26, 1962, Mr. B. R. Blishen, Director of Research for the Royal Commission on Health Services, requested through Dr. K.C. Charron, Director of Health Services, Department of National Health and Welfare, the assistance of this Division in preparing a working paper covering areas of consumer expenditure and prepayment arrangements. These are examined in Chapters III, V and VI of this study.

Soon after, on August 28, Mr. Blishen requested additionally the preparation by this Division of a more comprehensive report covering manufacturing, wholesaling and retailing aspects of drugs in Canada (with the exception of Chapter I which was being prepared by Dr. L. I. Pugsley, Associate Director of the Food and Drug Directorate, Department of National Health and Welfare).

The scope of our inquiries, in the course of developing this assignment, has of necessity been circumscribed somewhat by the limited amount of source data within reach, the time limit set for completion, and the staff available.

Particular thanks are due Dr. Pugsley for his preparation of the chapter delineating the background of Canadian pharmacy, and to Dr. K. C. Charron who reviewed Chapter VI on "Provision of Drugs under Health Insurance Programs in Various Countries".

This study has been prepared by R. J. Lachapelle, Supervisor, with L. G. Williams, A. F. Smith, and H. G. Cook, of the Health Economics Section of the Division.

(Signed) John E. Osborne, Director,
Research and Statistics Division.

Ottawa, January 31, 1963.

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INTRODUCTION

During the past four years the entire spectrum of costs, profits and prices of drugs has been intensively discussed by the Canadian public. The first formal investigation of recent importance on this continent was that undertaken in the United States by the Senate Subcommittee on Antitrust and Monopoly (the Kefauver Committee). This committee's inquiry was followed in Canada by the investigation on the manufacture, distribution and sale of drugs undertaken by the Director of Investigation and Research under the Combines Investigation Act. His study was, in turn, followed by hearings initiated by the Federal Restrictive Trade Practices Commission to ascertain whether or not price-fixing of drugs exists at any, or all three, of the manufacturing, distributing and retailing levels. It is understood that the Report of this Commission will shortly become available for public distribution. Since the Report will be dealing extensively with matters of patents, costs and prices at all levels, it has been decided in this particular study to restrict comments with respect to these subjects.

The primary aim has been to include constructive and factual information derived from objective evidence within the Canadian context. Several problems have been identified in the course of the study. This report makes no attempt to consider, point by point, the various criticisms of industry operations that have been made from time to time by persons or agencies interested in the whole matter of drugs.

A wide variety of basic data were consulted. These included relevant publications by the Dominion Bureau of Statistics, published and unpublished material in the files of the Research and Statistics Division of the Department of National Health and Welfare, and the numerous submissions presented to the Royal Commission on Health Services. The material collected by the Director of Investigation and Research under the Combines Investigation Act was closely examined, as were selected briefs submitted to the Restrictive Trade Practices Commission, and portions of the transcript of hearings of the Ontario Select Committee on Drugs.

CHAPTER I

BACKGROUND OF CANADIAN PHARMACY

(Prepared by Dr. L. I. Pugsley, Food and Drug Directorate,
Department of National Health and Welfare)

Definitions

In discussing the background and the development of pharmacy in Canada during the past thirty years, the following definitions and interpretations are given.

The work "pharmacy" comes from the Greek word *pharmakon* meaning medicine, and Dorland's Illustrated Medical Dictionary 23rd Edition provides the following definitions of the word: 1. "The art of preparing, compounding and dispensing medicines". 2. "An apothecary's shop". It is seen that the word has two meanings, the first one usually associated with an art or profession and the second, a place for commercial transactions.

In the submission presented by the Canadian Pharmaceutical Association to the Royal Commission on Health Services, May 1962, "pharmacy" is defined in Section 4.2 as follows:

> "Pharmacy is that profession which is concerned with the art and science of preparing from natural and synthetic sources, suitable and convenient materials for distribution and use in the diagnosis, treatment and prevention of disease. It embraces a knowledge of the identification, selection, pharmacologic action, preservation, combination, analysis and standardization of drugs and medicines. It also includes their proper and safe distribution and use whether dispensed on the prescription of a licensed physician, dentist or veterinarian, or in those instances where it may legally be done, dispensed or otherwise made available to the consumer."

This definition is taken in part from the one given in the well-recognized textbook Remington's Practice of Pharmacy 12th Edition, by E. W. Martin and E. F. Cook, published by the Mack Publishing Company, Easton, Penn., 1961, and in turn the definition was prepared by the Joint Committee to redefine the term "pharmacy" and submitted to the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy at Cincinnati, August 1959.

As indicated above the word "pharmacy" is also used to designate the place where medicines are compounded, dispensed and sold. Such places may be found in hospitals, medical centers, retail drugstores or wherever a practitioner of pharmacy distributes drugs and medicines.

The person who practices the profession of pharmacy is usually designated as a "pharmacist" and Dorland's Illustrated Medical Dictionary defines "pharmacist" as an apothecary or druggist. The Canadian Pharmaceutical Association has given the following definition of a "pharmacist" in Section 4.3 of their submission to the Royal Commission on Health Services, May 1962:

> "A pharmacist is one who through academic qualifications and legal professional registration is responsible for the preparation and distribution of the dosage forms of drugs. The pharmacist practices his profession through compounding and dispensing of medical prescriptions and through the comprehension and dissemination of information related to the science which embraces all knowledge of drugs, their identification, mechanism of action, toxicity, therapeutic activity, palatability, stability, dosage form, potentiation with other drugs and synergism in combination, and includes the standardization and critical evaluation of medicinal agents and pharmaceutical preparations.
>
> "The pharmacist's duties include general supervisory control combined with certain specific legal responsibilities relative to certain drugs, in addition to direct obligations concerning the purchase, storage, safeguarding and distribution of drugs in bulk, chemical state or finished pharmaceutical form, whether such duties pertain to advisory, technical or administrative functions or to his occupation as a pharmacy practitioner. A pharmacist may be more generally referred to as a person who has a stipulated academic background to enable his registration with a statutory pharmacy organization of a province of Canada."

In the definition of a "pharmacist" emphasis is placed upon academic qualifications and legal professional registration. In this respect, the practice of pharmacy is in a class with the practice of medicine, dentistry and the legal professions. These professions are often referred to as "closed professions" in that formal registration is a prerequisite to the practice and conduct of certain phases of the profession in contrast to other professional groups where voluntary membership in an association is the common bond of the profession, e.g., chemists, pharmacologists, etc. In the manufacture and distribution of drugs there are two groups of pharmacists, one concerned with the compounding and dispensing of drugs, including their sale and distribution on the order of authorized physicians, dentists, etc., and frequently referred to as *pharmacy practitioners*, while the other group is concerned with the industrial manufacture of drugs and these are commonly referred to as pharmaceutical chemists. Legal registration is not a prerequisite to working as a pharmaceutical chemist in industry. In a number of the Provincial Pharmacy Acts a pharmacy practitioner is referred to as a "pharmaceutical chemist" and in that context it means a pharmacy practitioner.

The Canadian Pharmaceutical Association in Section 4.4 of their submission to the Royal Commission on Health Services, May 1962, has defined a pharmacy practitioner as follows:

> "A pharmacy practitioner is a pharmacist registered and licenced by a provincial statutory pharmacy organization to prepare, compound and dispense prescriptions of duly authorized physicians, dentists and veterinarians intended for the mitigation, treatment or prevention of disease in man or animal. Such pharmacy practice may be carried out at the consumer level in community locations usually in conjunction with or as a part of a retail business establishment or at the institutional level, normally in conjunction with a hospital or other treatment centre."

The materials dispensed by a pharmacy practitioner are usually referred to as drugs and medical devices, and in order to have an understanding of these materials, Section 2(e) and 2(f) of the Food and Drugs Act (Chapter 38 of the Statutes of Canada 1953, as amended by Chapter 37 of the Statutes of Canada 1960–61) define these materials as follows:

> "device" means any instrument, apparatus or contrivance, including components, parts, and accessories thereof, manufactured, sold or represented for use in the diagnosis, treatment, mitigation or prevention of a disease, disorder, abnormal physical state, or the symptoms thereof, in man or animal; and
>
> "drug" includes any substance or mixture of substance manufactured, sold or represented for use in
>
> (i) the diagnosis, treatment, mitigation or prevention of a disease, disorder, abnormal physical state, or the symptoms thereof, in man or animal,
>
> (ii) restoring, correcting or modifying organic functions in man or animal, or
>
> (iii) disinfection in premises in which food is manufactured, prepared or kept, or for the control of vermin in such premises.

These definitions are all-inclusive and are considered to cover the materials dispensed and sold in a pharmacy by a pharmacist practitioner and utilized or *represented for use* for health purposes.

Dorland's Illustrated Medical Dictionary 23rd Edition defines medicine as "any drug or remedy". Thus it is seen that medicine is one group of drugs. The drugs dispensed by pharmacist practitioners are frequently divided into two groups depending on limitations or conditions of sale. First there are the group of drugs whose sale is restricted by statutory requirements to the presentation of an order or a prescription by a physician, dentist or veterinarian to a pharmacist practitioner. In this connection, at the federal level, Section 24(m) of the Food and Drugs Act provides authority to make regulations in the interest of, or for the prevention of injury to the health of consumers and for defining the conditions of sale of drugs for those purposes. Pursuant to this authority a list of drugs is established as a schedule to the Food and Drugs Act. This list is frequently referred to as Schedule F drugs (prescription drugs).

The Regulations under the Act make it an offence for a person to sell any drug included in Schedule F unless such person has received a prescription (an order from a person authorized by law of a province of Canada to treat patients, e.g., physician, dentist, veterinarian) for such drug. Certain groups are exempted from the requirements, e.g., registered pharmacists, wholesale druggists, physicians, certified hospitals, or any Department of the Government of Canada or of a province upon an order signed by the Minister or his authorized representative.

The label of all drugs included in Schedule F carry the symbol Pr in reverse type to serve as a signal to the pharmacist practitioner not to dispense such drugs unless he has received an order from a practitioner. The list of Schedule F drugs does not include all the drugs that a practitioner prescribes for patients, but a selected list and the regulations prohibit the advertising of such drugs to the general public. The following criteria are used as a guide by the Food and Drug Directorate of the Department of National Health and Welfare in recommending to the Government that the sale of such drugs or preparations thereof be restricted to an order from a practitioner:

(i) The drug is a new one on which animal or clinical experiments have shown indications of injurious action,

(ii) The drug is such that many people are tempted to use it without medical advice,

(iii) The drug is designed exclusively for the treatment of a serious disease for which self-medication is not advisable,

(iv) Injury from the use of the drug is insidious and not easily recognized until far advanced,

(v) The drug is known to be abused for illegal or immoral purposes or such abuse may be anticipated,

(vi) The drug is or may be habit forming,

(vii) The drug produces euphoria or tempts people to use it without medical advice.

In addition, the Food and Drug Directorate have considered the following factors which influence a recommendation not to restrict the sale of a drug or preparation thereof to prescription requirements:

(i) The drug is, in fact, rarely used without medical supervision,

(ii) The drug has been in use a long time and injurious effects have been rare,

(iii) The possible injury from the use of the drug is obvious to the user at the onset and is readily corrected by stopping the intake of the drug,

(iv) The condition under treatment is rarely serious or fatal.

In addition, at the federal level, Part III of the Food and Drugs Act provides authority to restrict the sale of a list of drugs referred to as Controlled Drugs and which are included in Schedule G to the Act, to a prescription from a practitioner

(a person who is registered and entitled under the law of a province to practise the profession of medicine, dentistry or veterinary medicine), and their import, export, manufacture and distribution is subject to a licence under the Food and Drugs Act. The intent of Part III of the Act and the pertinent regulations is to prevent trafficking in the drugs listed in the Schedule. The requirements make it mandatory that the pharmacist practitioner maintain more detailed records of the sale of this group of drugs than in the case of Schedule F drugs. The sale of drugs which come under the definition of a narcotic as defined in the Narcotic Control Act are also regulated at the federal level by similar licencing provisions and to an order from a practitioner. From the standpoint of the pharmacist practitioner, the sale of the narcotic drug is similar to that imposed for Schedule G. The label of Schedule G drugs carries the symbol "℞" and the narcotic drugs "N" to signify to the pharmacy practitioner the restrictions on the sale of the drug.

In summary there are three groups of drugs regulated at the federal level to the presentation of a prescription or order to a pharmacist practitioner before they may be sold to a consumer, namely, the Schedule F drugs, the Schedule G drugs and the narcotic drugs. The restrictions on the sale of these drugs are not defined in *terms of treatment* and in this sense do not cover all of the drugs prescribed by physicians. These requirements are intended to prevent injury to the health of the general public and social abuses of drugs. They are not divided into these lists according to the treatments for which they are intended.

The Provincial Pharmacy Acts also maintain lists of drugs whose sale is limited to the presentation of a prescription to pharmacy practitioners. Such lists are not uniform between provinces but all include the drugs in the federal lists.

The second group of drugs whose sale is exempted from the presentation of a prescription to a pharmacist practitioner at the federal and provincial level are the drugs coming under the jurisdiction of the Proprietary or Patent Medicine Act. This Act is administered by the Food and Drug Directorate of the Department of National Health and Welfare. Section 2(d) of the Act states:

> "Proprietary or Patent Medicine means every artificial remedy or prescription manufactured for the internal or external use of man, the name, composition, or definition of which is not to be found in the British Pharmacopoeia, the Codex Medicamentarius of France, the Pharmacopoeia of the United States or any foreign pharmacopoeia approved by the Minister, the Canadian Formulary, the National Formulary of the United States of America, or any formulary adopted by any constituted pharmaceutical association representing Canada and approved by the Minister or upon which is not printed in a conspicuous manner, the true formula or list of medicinal ingredients contained in it."

In addition, there are limitations on the number, type and amount of medication which may be included in a proprietary or patent medicine, e.g., a drug is not registered under the Proprietary or Patent Medicine Act if it contains alcohol as a solvent and the preparation is not sufficiently medicated to make it unfit for use as a beverage. No biological preparations are registered under this Act.

In addition to exempting the drugs coming under the Proprietary or Patent Medicine Act from provincial prescription requirements, the Provincial Pharmacy Acts also exempt such medicines from the requirement that all sales and distribution be made through registered pharmacies only. This means that these drugs may be sold in grocery stores, tobacco stores, etc., and hence enjoy a much wider distribution than the drugs not registered under the Proprietary or Patent Medicine Act. It should also be pointed out that a request for the registration of a drug under the Proprietary or Patent Medicine Act is a voluntary action on the part of a drug manufacturer.

The regulations under the Food and Drugs Act make it mandatory to disclose on the label of a drug a complete list of each medicinal ingredient by the common or proper name. It is only when the manufacturer does not wish to disclose the complete list of medicinal ingredients that he may take advantage of the Proprietary or Patent Medicine Act in order to sell a drug if ingredients of such a drug come within the definition of the latter Act. On this basis, two reasons may be seen for having a drug distributed under this Act, namely, secrecy in respect to composition and a wider sales distribution. In the latter sense the Act may be looked upon as a marketing Act to obtain a larger outlet of sales and this has been estimated to amount to an additional 20 per cent in sales volume.

In other countries a proprietary drug has acquired a different meaning, for example in the United States the New York Court of Appeal in a unanimous decision recently declared that Bayer's Aspirin is properly qualified as a proprietary medicine and may be sold where there is no supervision by licenced pharmacists. The following definition was given in that case for a proprietary medicine:

> "A proprietary medicine is one packaged with directions for use, obtainable without prescription, widely advertised under a brand name and generally purchased in reliance on the manufacturer's rather than the seller's name."

Dorland's Illustrated Medical Dictionary 23rd Edition, defines a proprietary medicine as follows:

> "A proprietary medicine is any chemical, drug, or similar preparation used in the treatment of diseases, if such article is protected against free competition as to name, product, composition or process of manufacture by secrecy, patent, trade mark, or copyright, or by any other means."

In summary, it may be seen that the Proprietary or Patent Medicine group of drugs do not constitute a recognized treatment list of drugs. They are a group of drugs distributed in pharmacies, as well as in other retail outlets without the supervision of pharmacist practitioners. The labels of these products do not carry a complete list of ingredients (in some instances only one or two ingredients are not disclosed). In many cases these preparations are well-recognized formulations of drugs and may be the subject of a prescription by a physician, although this is not mandatory on the part of any Act controlling the sale of drugs.

The group of drugs coming under the jurisdiction of the Proprietary or Patent Medicine Act should not be confused with a group of drugs recognized as proprietary drugs in Dorland's definition. The latter group of drugs is greater in number than that defined in the Act.

In the brief from the Canadian Pharmaceutical Manufacturers Association, May 1962, it is noted that the Association represents a group of companies engaged in the manufacture of "ethical pharmaceutical preparations". They consider the term "ethical" to mean pharmaceutical preparations (drugs) dispensed on doctor's prescriptions and those not advertised to the public, as contrasted with proprietary or patent medicines which are usually advertised to the general public.

As in the case of the drugs coming under the jurisdiction of the Proprietary or Patent Medicine Act, the above definition of "ethical drugs" is a term used in marketing drugs and does not constitute a recognized treatment list of drugs. It may be mentioned in passing that the majority of the above manufacturers of "ethical preparations" also carry a line of over-the-counter preparations such as vitamins, cold and cough remedies, etc., and these are advertised by window displays and the like in drugstores. Such representation has always been looked upon as advertising to the public. It is realized that these firms do not use the mass media type of advertising utilized at times by the manufacturers of proprietary or patent medicines. Under the heading of definitions it would appear appropriate to include a short discussion on the nomenclature of drugs.

NOMENCLATURE OF DRUGS

Drugs constitute a group of substances which come under the broad definition of chemicals. Chemicals and similar substances become drugs in accordance with how they are represented as indicated above in the definition of a drug as given in the Food and Drugs Act. For example, sodium chloride or common salt is a chemical and when represented for use in pickling of meat it is a food, while on the other hand, if it is dissolved in water and represented for use as an intravenous injection in hospitals, it is a drug. In the case of some drugs, e.g., the biologicals, the identity of the active chemical ingredient is not known in many instances, while in the great majority of drugs, the active ingredient may be defined in terms of standard chemical nomenclature. There are standard sets of rules for describing chemical compounds. Many chemical names are unwieldy and a pharmaceutical nomenclature has been developed to overcome this difficulty. However, the chemical name always serves as the standard of reference in determining the identity of a drug and it is the only name a new drug may have until a recognized common name has been developed.

Section C.01.001(b) of the Regulations under the Food and Drugs Act defines "common name" with reference to a drug to mean the name in English or French by which the drug is commonly known. Hence, until a recognized name has been selected, the chemical name of a drug is the common name. A recognized name

for a drug is one selected by an official organization dealing in drugs such as the Food and Drug Directorate, the British Pharmacopoeia, United States Pharmacopoeia or the International Pharmacopoeia, and in Canada such a name has been designated as the "proper name". The Regulations under the Food and Drugs Act define "proper name" as the name in English or French assigned to the drug in the Regulations or assigned in any of the following official publications: Pharmacopoeia Internationalis, The British Pharmacopoeia, The Pharmacopoeia of the United States of America, Codex Français, the Canadian Formulary, The British Pharmaceutical Codex and the National Formulary.

The term "proper name" appears to be distinctly Canadian. In other countries a different title is used to indicate the same thing. The British Pharmacopoeia Commission refers to this name as the "approved name", while the World Health Organization, who are responsible for the Pharmacopoeia Internationalis, refer to the "international non-proprietary name". The Revision Committee of the United States Pharmacopoeia within the last year has collaborated with the Council on Pharmacy of the American Medical Association in establishing official names for drugs. Prior to this time, the Council on Pharmacy of the American Medical Association used the terminology "generic name" as an abbreviated scientific name for general use in prescribing, naming and identifying drugs with unwieldy chemical names.

The United States Pharmacopoeia Nomenclature Committee of the American Medical Association has coined the name "United States Adopted Name" (USAN) for what was formerly referred to as the generic or non-proprietary name. The "brand name" or "proprietary name" is that assigned to a drug by a particular manufacturer and is usually a registered trademark which identifies the drug as a product of a single manufacturer. This is considered of significance to a manufacturer in building a market for a drug, since in time the trade name tends to become associated in the minds of physicians and the public with the manufacturer of the drug.

In Canada every effort is made to follow the nomenclature of the Expert Committee of the International Pharmacopoeia of the World Health Organization. Excellent co-operation exists between this organization and the official bodies in the United States and the United Kingdom to maintain uniformity throughout the world in pharmaceutical nomenclature. For practical purposes the names "proper name", "approved name", "adopted name", "pharmacopoeial name", "international non-proprietary name" and "generic name" are used as synonyms in the trade.

A standard list of terminal endings has been adopted to signify a class of drugs, e.g., "ine" for alkaloids and organic bases, "ol" for alcohols, "one" for aldehydes, etc. The selection of a "proper name", etc. of a drug merely means a recognized official name; it has no significance in reference to the quality of a drug. The official name is the one used in designating the drug in official standard works on drugs where a monograph sets out specifications, assay

procedures, etc. The same drug may have different specifications in different standard works, hence the necessity of signifying what standard exists for the drug, e.g., Cortisone U.S.P., Ether B.P., etc.

Although the term "generic name" has recently acquired an economic meaning depending upon the point of view, the term as used in the drug field is a misnomer. The adjective "generic" comes from the Latin word "genus" and suggests classification into genera as is the practice in botany and zoology. As commonly used, "generic name" does not relate to a class or genus of drugs, but has been intended to mean a single drug. There is a place for the term "generic name" in the drug field in the designation of families of active compounds. For example, vitamin A is the true generic name of a family of at least four closely related compounds having vitamin A activity. Other examples are also available.

In pharmacy terminology the term "OTC" means over-the-counter drugs. In the majority of instances this group of drugs is synonymous with the proprietary and home remedy types of drugs and drugs not commonly prescribed by physicians.

OFFICIAL STANDARD WORKS ON DRUGS

The necessity for legalized standards to define the specifications, establish the purity and regulate the strength of drugs is recognized by a number of countries. The text setting forth these standards is termed a pharmacopoeia from the Greek word "pharmakon" medicine, and "poieo" make. In other words, a pharmacopoeia is a book containing a list of drugs with descriptive texts and formulae for preparing the drug selected by some recognized authority. Many nations in the world have national pharmacopoeias, e.g., in the United Kingdom, the British Pharmacopoeia – in the United States, the United States Pharmacopoeia – in France, The Codex Medicamentarius Gallicus (Codex Français) – in Germany, the Deutsches Arzneibuch (Pharmacopoeia Germanica), etc. Efforts have been made for a number of years to establish an International Pharmacopoeia. A start was made in Brussels in 1902 by the establishment of the International Conference for the Unification of Potent Remedies and the matter was continued by the League of Nations and later by the World Health Organization by the establishment of an International Pharmacopoeial Committee which published the first volume of the International Pharmacopoeia in 1950 in three languages, English, French, and Spanish. A second volume was completed in 1955 and a supplement in 1959.

In Canada there is no national pharmacopoeia as such, however, authority is provided in the Food and Drugs Act to establish by regulation standards of composition, strength, purity, potency, quality and other properties of drugs and this has been done for a number of preparations. In addition, the British Pharmacopoeia, the United States Pharmacopoeia, the International Pharmacopoeia and Codex Français have been recognized as official texts on drugs in a schedule to the Food and Drugs Act.

In addition to a national pharmacopoeia, a number of countries have another standard work on drugs entitled "A Formulary" or a collection of recipes, formulae and prescriptions. For example, in the United States there is the National Formulary supplementing the United States Pharmacopoeia in the promotion of standardization of the names and formulae of extensively used drugs not described in the U.S.P. In other countries the formulary type of text is termed a Codex, e.g., the British Pharmaceutical Codex. These standard compendia are recognized as official texts on drugs providing standards and tests of identity, purity and quality of drugs to ensure as far as possible uniformity in physical properties and active constituents. In addition, they standardize the names and formula of extensively used drugs. As in the case of the pharmacopoeia, a schedule of the Food and Drugs Act recognizes the above texts as official standard compendia on drugs in Canada.

At the present time Canada is without any comprehensive national standard compendium on drugs, as is available in many other countries. For example, in the United States there is the United States Pharmacopoeia and the National Formulary, and in the United Kingdom the British Pharmaceutical Codex and the British Pharmacopoeia. These extensive texts provide monographs for official standards for a selected group of drugs and are recognized by the governments as the official standard works on drugs in the respective countries. These texts are very important in commerce in providing specifications, tests and standards for bulk drugs, as well as recognized formulations for tablets, capsules, injections, etc. They do not provide a treatment list of drugs. Liaison is maintained between the revision committees of the U.S.P., N.F., B.P., B.P.C. and the Food and Drug Directorate. These texts are usually revised every five years and a new drug may be on the market eight to ten years before it is recognized for inclusion in a pharmacopoeia, formulary or codex.

A number of years ago efforts were made to establish a national compendium on drugs in Canada under the title of the Canadian Formulary. This text was originally compiled and published in 1905 under the authority of the Ontario College of Pharmacy and continued to be the property of that organization through five revisions until 1929 when the title was transferred to the Canadian Pharmaceutical Association. The last revision of the Canadian Formulary was undertaken by the Canadian Conference of Pharmaceutical Faculties for the Canadian Pharmaceutical Association and the last edition (the seventh) was published in 1949. It consists of approximately 130 formulas of selected preparations. Many of the extemporaneous types of preparations included in previous revisions were omitted from the seventh revision. It is now out-of-date and rarely referred to as a standard work on drugs in Canada.

DEVELOPMENTS IN PHARMACY

In discussing the developments in pharmacy during the past thirty years, it is realized that the subject is closely linked with developments in the pharmaceutical industry and in medicine. The early discovery of drugs was made by man

in his search for food or materials to maintain health and energy. Associated with the maintenance of health and energy, materials were discovered which restored these two vital needs of man. This concept is seen in the definition of a drug as a substance which is represented for restoring, correcting or modifying organic functions, whereas a food includes a substance which is represented as food or drink for man. The distinction between a food and a drug depends on what representations are made for the article concerned. The original association between foods and drugs persists today. At one end of the scale there are the so-called dietary preparations represented for body weight control containing ingredients ordinarily consumed as foods but on account of their recommendations for use they perform the function of a drug. The vitamin preparations are an example of the grey area which exists between foods and drugs.

At the other end of the scale there are extremely potent drugs effective in microgram quantities and dangerous to use except under professional guidance. In fact, many of the substances used in chemical warfare originated as preparations represented for use as drugs in restoring, correcting or modifying organic functions in man. Many of the substances which were later developed as drugs originated from poisons discovered through trial and error by man in his search for food. The concept that drugs are poisons led to the handling of these substances by people experienced in their properties and designated as apothecaries and this in turn led to designating the person as a practitioner of pharmacy.

In its traditional form, the practice of pharmacy demanded a thorough knowledge of the properties of many substances of vegetable, animal and inorganic origin. The majority of drugs used in the early days were crude plant or animal products and as the pharmacist became more experienced in handling these products, extracts and combinations were prepared for the treatment of diseases. Pharmacognosy, the branch of pharmacy which treats the physical characteristics of crude drugs, was a very important subject during this time in the training and education of pharmacists. In the period between 1920 and 1940, the sciences of pharmacology, biochemistry, organic chemistry and physiology advanced rapidly. Prior to this time most of the drugs in use treated the symptoms rather than the cause of the disease and the physicians followed the course of the treatment by observing the patient's symptoms. With the development of these sciences, knowledge was obtained of the mechanism of action of drugs, refinements in extraction methods were developed, and the chemical synthesis of drugs from relatively simple organic chemicals was initiated.

The isolation of insulin, the active principle of the pancreas, by Banting, Best, Collip and McLeod, at the University of Toronto in 1922, stimulated research in extraction and assay procedures for a number of glandular preparations, e.g., the isolation of the active principle of the parathyroid gland by Collip in 1924; the isolation of the anti-anaemia principle of the liver by Minot and Murphy in 1926, and beginning in 1930, the isolation of a whole series of hormone preparations from the adrenal gland by Kendall and his associates, to mention a few of the leading discoveries in this period.

At the same time there was a marked development in synthetic organic medicinal preparations. Two of the leading developments in this field during this period were the development of the sulphonamide series of drugs in 1932, followed by the antibiotics beginning in 1942.

All of these new compounds developed by highly complex procedures brought about a striking change in the practice of pharmacy. The compounding, extraction and percolation procedures performed by empirical methods in the dispensary of the retail pharmacist became gradually replaced by a new series of drugs prepared in dosage form by the pharmaceutical industry using extensive laboratory equipment and chemical engineering skills and employing scientists with special training and experience in pharmacology, chemistry, biochemistry and medicine. The role of the pharmacists in the manufacture and production of drugs was gradually replaced by the more specialized scientific disciplines. At the same time, however, the pharmacist maintained control of the retail distribution and retail sale of drugs.

The change in emphasis on the type of preparations dispensed by pharmacists is illustrated in a sampling of prescriptions dispensed in an Ontario pharmacy between the years 1904 to 1960 and reported to the Royal Commission on Health Services by the Canadian Pharmaceutical Association, Section 6.15.

Number of Prescriptions

Year	*Containing Galenicals*	*Requiring Compounding*	*Containing Trade Names*	*Containing Drugs not Available on Previous Date*
1904	11	12	1	–
1930	5	10	5	4
1945	1	3	7	7
1960	0	1	15	11

It is noted that the number of galenicals and preparations requiring compounding practically disappeared around 1945. On the other hand, the number of preparations dispensed by their trade name and new products increased markedly from 1930 onwards. The above tabulation illustrates the impact of the expanding pharmaceutical industry on the practice of pharmacy in supplying ready-made drugs in the finished dosage form. It also may be taken as an indication of the high rate of obsolescence of drugs under the revised system of production.

A further indication of the striking change that has taken place during the past forty years in the type and class of drugs recognized as official medication is seen in the report of Dr. F. N. Hughes in his presentation to the Ontario Select Committee on Drugs, June 1960. He compared the number of monographs of different classes of drugs in the revisions of the British Pharmacopoeia since 1898. The following tabulation is taken in part from the report by Dr. Hughes:

British Pharmacopoeia

Edition	*Tinctures*	*Plant Drugs*	*Organic Synthetics*
1898	85	188	11
1914	71	109	19
1932	45	56	37
1948	28	43	126
1953	17	22	141
1958	16	16	156

The marked decrease in the number of monographs on tinctures and plant drugs, and the increase in the number of organic synthetics since 1932 should be noted. Dr. Hughes comments as follows: "It is apparent that the only plant drugs remaining are those which contain well-defined therapeutically active compounds." This tabulation points out the impact of synthetic organic chemistry on the development of new drugs.

The scientific and technological advances in the production of drugs brought about revisions and adjustments in the curricula of pharmacy schools. Apprenticeship prior to 1930 was featured in the training of a pharmacist in the art and skills of compounding medicines. At this time the majority of the provincial requirements for a registered pharmacist were three or four years apprenticeship and two years of academic training. Since 1930 the period of apprenticeship has gradually decreased and the academic training increased, and at present the majority of the provincial requirements for registration as a pharmacist include at least four years of academic training and a relatively short period of apprenticeship.

With the additional training in the biological and physical sciences and the increasing responsibility in dispensing potent drugs in dosage form, the pharmacist is now assuming the role of a consultant on drugs to the physician in judging their efficacy and safety. He is a source of up-to-date information on drugs used by the physician. In order to carry out this function he must have a thorough grounding in pharmacology, drug manufacturing, quality control, structural relationship of drugs, and all the scientific disciplines concerned in advising the physician on the choice of a drug to use in his practice. The pharmacist must be conversant with the physical and chemical properties of drugs in order that proper precautions are taken in the storage, packaging and transport of drugs.

In the dispensing of dosage forms of drugs, it is essential for the pharmacist to know about the pathways by which the drugs are administered and the usual dosages which are suitable for each pathway. In this advancing field of technology it is necessary for the pharmacist to continue his education to keep abreast of the advances in therapy. The fundamental training which he receives serves as a basis for future education.

During the past thirty years a marked change has occurred in the art and science of dispensing. The pharmacist is now becoming a guide and counsel to the physician on the new drugs developed by the pharmaceutical industry in dosage forms. He serves as an independent, uncompromised individual to tell the physician about new drugs. For example, it is the pharmacist who should be able

to advise the physician if the four brand names of a drug are all the same in quality and usefulness. The developments in pharmacy during the past thirty years may also be evaluated in terms of the increase in number of pharmacies to serve the public in relation to the increase in population and increase in gross sales. The following tabulation has been prepared from data supplied in the Census of Canada retail trade reports:

Year	*No. of Pharmacies*	*Gross Sales $'000*	*Sales per Pharmacy*	*Population '000*	*Population per Pharmacy*
1930	3,559(100)	76,848(100)	21,592(100)	10,376(100)	2,915
1941	2,956(111)	101,027(131)	25,537(118)	11,506(111)	2,908
1951	4,325(121)	248,448(323)	57,444(266)	14,009(135)	3,239
1960	4,915(138)	408,655(532)	83,144(385)	18,168(175)	3,696

It is noted (column 2) that from 1930 to 1960 the number of pharmacies did not increase in proportion to the increase in population (column 5). Moreover, the population served per pharmacy (column 6) has increased quite markedly since 1951. The gross sales of pharmacies (column 3) has also increased markedly during the past thirty years, especially since 1951. Undoubtedly some of the increased sales are accounted for by the general inflation of prices of all commodities; however, there has been a marked increase in the number and type of drugs distributed from pharmacies. The values shown in parentheses were calculated on the basis of 1930 as 100, in order to show the comparative increase in pharmacies, gross sales, sales per pharmacy and increase in population during this period.

A further indication of the growth and development of the retail drug industry may be seen from the trend in the increase in the number of prescriptions dispensed by pharmacies, the increased sales from prescriptions and the increase in the proportion of prescription sales when represented as a percentage of the total sales of retail drugstores. These data were taken in part from the report by H. J. Fuller, Canadian Pharmaceutical Journal 94, September 1961:

Year	*No. of Prescriptions Filled '000*	*Value of Prescriptions $'000*	*Average Price of Prescription*	*Prescription Sales as a Percentage of Total Sales*
1951	30,958	52,010	1.68	15.06
1955	32,908	74,372	2.26	19.96
1959	43,916	130,871	2.98	26.00

The period between 1955 and 1959 has shown a marked increase in the number of prescriptions issued by pharmacies and an increase in sales volume of these items. It is evident that physicians are prescribing an increasing number of drugs as seen from the upward trend of the percentage of prescription sales in terms of total sales.

During the past thirty years two trends have been seen in the retail drug industry. On one hand, there has been an increase in the number of strictly professional pharmacies, while on the other hand, there has been a consolidation and enlargement of the type of drugstores dealing in a variety of items unrelated to drugs. There has been a tendency to establish a pharmacy staffed almost wholly by professional pharmacists in buildings occupied by a large number of physicians and dentists. In addition, there has been an increasing tendency during the past ten years to establish pharmacies in hospitals. The income from these establishments is almost wholly from the sale of drugs. On the other hand, there has been a gradual reduction in what is frequently termed the "corner drugstore" and the development of a drug and sundries outlet within large department stores or as an adjunct to supermarkets. These retail sales establishments deal in a wide variety of merchandise in addition to drugs, e.g., tobacco, cameras, cosmetics, stationery, etc., and are staffed partly by professional pharmacists and partly by a non-professional sales staff. It is difficult to obtain any statistics on this trend, but evidence of this new type of merchandising can be seen in the towns and cities across Canada.

The statistics given above show a more rapid increase in the utilization of drugs during the past fifteen years than during any previous period. This period has seen the development of a number of new therapeutic agents in the form of diuretics, antihistamines, corticosteroids, antibiotics, antituberculosis drugs, vaccines, antidiabetic drugs and many others. The trend is towards the development of drugs to treat specific diseases rather than to treat the symptoms of diseases as in the preceding period. Although the home remedy type of preparations still persist and enjoy a relatively wide sale, the new chemotherapeutic agents are providing the physicians with potent weapons for the treatment of diseased states. This development in the pharmaceutical industry has had its impact on the retail drug trade in the form of increased sales, as well as demanding a greater scientific background on the part of the pharmacist. In addition, it is essential for the pharmacist to carry a much larger inventory of drugs than in previous years.

LEGISLATION

The basis for the legislative controls over the distribution of drugs and the practice of pharmacy is alleged to have originated with a decree issued by Emperor Frederick II of Hohenstaufen, King of the Two Sicilies and Holy Roman Emperor, in 1240 A.D. in which the practice of pharmacy as now known was established as an independent branch of a health service under the supervision of the government. This decree made a distinct separation between the practice of pharmacy and the practice of medicine on the ethical principle that there should not be any exploitation of the sick. This basic philosophy has been followed down through the ages, namely, that it is the function of the physician to diagnose and prescribe treatment for the sick, whereas it is the function of the pharmacist to be

responsible for the preparation, testing, preserving, compounding and dispensing of drugs.

The need for laws controlling the sale and distribution of drugs to prevent the exploitation of the sick may be seen first from the fact that the majority of drugs are classed as poisons, and secondly, that diseases and their treatment have always been looked upon by the general public with some element of mystery, superstition, or as an act of evil spirits. The latter provides a fertile ground for the exploitation of the public and, in fact, may still be observed in the practices used in the promotion and advertising of drugs.

From the standpoint of the distribution of poisons, it is recognized that there is a need for professional knowledge, guidance and care in their use and distribution, and to prevent exploitation, there is a need to ensure that factual information is disseminated about products in order that the public is not misled or misinformed regarding their merit, value, composition or safety.

The British North America Act assigned certain jurisdictional rights to the federal government and others to the provincial governments. Among these rights, matters pertaining to criminal offences were considered a federal responsibility, while those pertaining to property and civil rights were delegated to the provincial governments. The licensing of pharmacists, physicians and lawyers has been considered under the jurisdiction of property and civil rights and hence a provincial responsibility.

Federal Legislation

(a) Food and Drugs Act –

The basic federal legislation for the control of drugs in Canada is given in the Food and Drugs Act, Chapter 38 of the Statutes of Canada 1953, as amended by Chapter 37 of the Statutes of Canada 1960–61. It is the function and purpose of this Act to provide protection to the consumer in respect to health hazards, frauds and deception arising out of the manufacture, sale and distribution of drugs and medical devices. It is based on the authority of the federal government to legislate on criminal matters, and as such, provides for the prohibition directly or indirectly of certain actions as is followed in other criminal statutes.

The Act prohibits a manufacturer or distributor of drugs doing certain things. It does not authorize them to perform certain duties and functions, since such would imply that authority was provided to commit a criminal offence. It is the responsibility of the manufacturer and distributor to ensure that the provisions of the Act and Regulations are not violated in the sale and distribution of drugs to the general public. The Act gives no authority for the approval of anything or any action. Any drug or medical device not violating the Act or Regulations may be sold. The basic principles as given in the Food and Drugs Act for the control of drugs and medical devices are as follows:

1. The sale and advertising of any drug is prohibited as a treatment or preventative for certain diseases given in Schedule A to the Act, e.g., diabetes, tuberculosis, poliomyelitis, venereal diseases, etc. It is considered that self-treatment with drugs for such diseases is a hazard to the health of the general public and the treatment of these diseases requires medical diagnosis and professional guidance in the administration of drugs.
2. The sale of any drug that was manufactured, prepared, preserved, packed or stored under unsanitary conditions or is adulterated is prohibited.
3. The labeling, packaging, selling or advertising a drug or device in a manner that is false, misleading or is likely to create an erroneous impression regarding its character, value, quantity, composition, merit or safety is prohibited.
4. Where a standard has been prescribed in the regulations under the Act, or in any of the compendia on drugs recognized by the Act, it is prohibited to sell or advertise a drug unless it fully complies with the prescribed standard.
5. Authority is provided to establish lists of certain drugs (Schedule C and D) and to prohibit their sale unless the premises, processes and conditions of manufacture are suitable to ensure that the drug is not unsafe for use.
6. The distribution of drugs as a sample is prohibited except to a physician, dentist, or veterinarian.
7. The Act provides authority for the Governor in Council to make regulations for carrying the provisions of the Act into effect.
8. The 1960–61 amendment to the Act provided authority to prohibit the trafficking in a selected list of drugs (Schedule G) to prevent their misuse and abuse.
9. Provision is made for the enforcement of the Act through inspection, testing, forfeiture, seizure, detention and prosecution of offenders by summary conviction or on conviction by indictment.

The utilization of these basic principles, together with the authority for putting the provisions of the Act into effect by delegated legislation, provides a flexibility to the law to keep pace with the technological developments in the drug industry and retail distribution of drugs.

(b) Narcotic Control Act –

It is the function and purpose of this Act, Chapter 35 of the Statutes of Canada 1961, to provide at the federal level for the domestic control of the legitimate trade in narcotic drugs, and in co-operation with the Department of Justice, to suppress the illicit traffic in narcotics, as well as to provide for liaison and co-operation with other countries which are members of the United Nations in relation to both legitimate and illicit narcotic matters. The Act is unique in the sense that it deals wholly with one class of drugs which is not dealt with in other federal legislation dealing with drugs. Narcotic drugs are defined

broadly as any substance included in the Schedule to the Act and provision is made for amending the Schedule by Order in Council to keep abreast of developments in this important field of medicinal agents.

Provision is made for the handling of narcotic drugs through wholesalers and others under a licensing system. The Act specifically prohibits the production and manufacturing of the bulk narcotic drugs in Canada, hence all the supplies are imported. Under international conventions certain countries are designated to manufacture these drugs, while others are designated as non-manufacturing. Each year an estimate is made of the requirements for narcotic drugs and arrangements are made for the importation of such quantities as are needed for legitimate purposes.

Through a licensing and audit system of the bulk supplies at the wholesale level, an excellent opportunity is afforded to ensure the proper distribution of these drugs. In addition, the Act provides for an audit of the records of hospitals and retail drugstores to ensure that distribution and sale is made through the proper channels, namely, on the prescription of a licensed physician, dentist or veterinarian. Moreover, the Act prohibits the sale and distribution of these drugs at the retail level by anyone other than a pharmacist registered under one of the provincial Pharmacy Acts. The Act also requires physicians, dentists or veterinarians to furnish an explanation on the request of the enforcement agency respecting supplies of narcotic drugs which have been purchased, as well as the distribution of such supplies. In this way a complete record is available of the source and distribution of the legitimate sale of these drugs. Relatively heavy penalties are imposed for the illegal possession, distribution, importation, transportation and storage of narcotic drugs. The pharmacist exercises considerable responsibility and plays an important role in ensuring that narcotic drugs are distributed through the proper channels at the retail level.

(c) Proprietary or Patent Medicine Act –

This Act, Chapter 220 of the Statutes of Canada 1952, administered by the Food and Drug Directorate of the Department of National Health and Welfare, was enacted in 1908 because of the increasing growth in the sale of proprietary preparations to be used for self-administration on self-diagnosis. There was also a tendency at this time to mask alcoholic beverages as medicinal agents. To provide protection to the public and at the same time give the inventor of these preparations some protection which was not available under the Patent Act, the Proprietary or Patent Medicine Act was introduced.

The purpose of the Act was primarily to protect the public from unscrupulous and irresponsible manufacturers and vendors who attempted to exploit human suffering by making claims for all manner of nostrums intended to cure ailments for which medical science had been unable to find successful or effective treatments.

The basis of the legislation is the registration of all secret formula non-pharmacopoeial packaged medicines for internal and external use and provide for the sale of such under a registration number. If the preparation contains alcohol,

there must be sufficient medicating ingredients to make it unsuitable as an alcoholic beverage. In addition, there is a prohibition as in the case of the Food and Drugs Act against false and misleading claims, as well as against representation as a treatment for a list of scheduled diseases, e.g., cancer, diabetes, pneumonia, venereal diseases, etc.

In contrast to the Food and Drugs Act where no provision is made for the licensing of a manufacturer or the sale of drugs, except in the case of certain biologicals requiring special facilities and controls and where there is a prohibition of sale unless there is a full disclosure on the label of the medicinal ingredients, the Proprietary or Patent Medicine Act operates under a registration or licensing arrangement without a full disclosure of the medicinal ingredients on the label. It is seen that the Proprietary or Patent Medicine Act provides for an alternate method of merchandising a restricted group of home remedy type of preparations without a full disclosure of the medicinal ingredients as is required by the Food and Drugs Act. The maximum amount of the medicinal ingredient in a daily dose in a number of instances is also restricted by this Act.

The provincial Pharmacy Acts, as will be seen below, define where and by whom drugs can be sold. However, these provincial Acts exempt the drugs registered under the Proprietary or Patent Medicine Act from exclusive sale in a pharmacy, thus making these drugs available in outlets other than drugstores. In this respect the drugs registered under the Proprietary or Patent Medicine Act enjoy a wider sales outlet and possibly an economic advantage over the majority of drugs. Recently there has been a tendency on the part of certain manufacturers to petition for the registration of their products under the Proprietary or Patent Medicine Act in order to obtain the increased volume of sales, e.g., in rural general stores, supermarkets, tobacco stores, chain stores, etc.

In contrast to the Narcotic Control Act where the pharmacists play an important role in the distribution of narcotic drugs, their role in the sale of drugs registered under the Proprietary or Patent Medicine Act is of minor importance from a professional standpoint. However, these preparations do have a relatively large volume of sales in retail drugstores.

One of the difficulties in the distribution of the drugs registered under the Proprietary or Patent Medicine Act is concerned with incidents of poisoning in children consuming a relatively large amount of the drug. Since many of the ingredients are not listed on the label, it is difficult for the physician to know the type of antidote required to counteract the poison. This difficulty has been partly overcome by providing poison control centers across Canada with a list of ingredients which may be the cause of poisoning with overdosage of the drugs registered under this Act.

Considering the restricted list of drugs which may be registered and the protection afforded by limiting the claims and recommendations for use, the public

receives considerable protection against health hazards and frauds in the sale and distribution of drugs registered under the Proprietary or Patent Medicine Act. It is to be noted that there does not appear to be any counterpart to the legislation of this Act in any other country. Whether it has outlived its usefulness is a difficult question since there does not appear to be any need for secret formula preparations under present day conditions and legislation providing for marketing advantages appears to be foreign to federal food and drug control.

(d) Pest Control Products Act –

This Act, administered by the Plant Products Division of the federal Department of Agriculture, provides regulations under the Pest Control Products Act for a group of drugs used in the control of pests, especially internal parasites in animals and poultry. In a broader sense, the Pest Control Products Act regulates the sale and distribution of pesticides used to control the insects and pests which attack plant products. Control is exercised through a type of registration and inspection. It is a form of legislation that the pharmacist must have cognizance of in order to provide the physician and the public with advice and guidance. As in the case of the majority of drugs, the preparations registered under the Pest Control Products Act are poisons and as such require professional guidance and supervision for their proper use.

Provincial Legislation

The federal statutes listed above by no means deal exhaustively with the sale and distribution of drugs and medical devices. In addition to the requirements of the above Acts, each province has legislation dealing with the practice of pharmacy and regulates the handling and sale of drugs within the province. It is not intended to deal with each provincial Act separately other than to indicate the general pattern and purpose of the legislative procedures employed in enforcement of the pharmacy Acts.

From the standpoint of the British North America Act the regulation of a trade or profession is considered to come within the definition of property and civil rights and hence is a jurisdictional responsibility of the provincial governments. Pursuant to this jurisdictional right, each of the provinces of Canada has enacted statutes controlling the retail sale of drugs. It is the purpose and function of these Acts to establish the qualifications to be met by persons in order to practise as pharmaceutical chemists (pharmacists) within each province and to place on the qualified pharmacist the responsibility for the compounding, dispensing and sale of drugs and medicines, as well as the responsibility for the sale of certain chemicals designated as poisons.

These Acts are administered by a Council or Board appointed by the provincial Pharmacy Associations and in this sense the Association assumes the responsibility of governing its own members. Each of the Acts provides that

"except as otherwise provided" no one except a pharmaceutical chemist may compound or dispense prescriptions of authorized practitioners or sell or offer for sale or keep open a shop for the sale, the compounding, or the dispensing of drugs, medicines or poisons. The Acts generally exempt authorized practitioners, dentists and veterinary surgeons from the provisions of the Act in respect to supplying medicine to their own patients. In the majority of the provinces the provisions of the Act also apply to the compounding and dispensing of medicine in hospitals. It is the philosophy of these Acts that it is not in the public interest that there be a direct business relationship between practitioners of medicine and practitioners of pharmacy on the principle that professional service and not exploitation of the sick should be the main function of these health services.

The Pharmacy Acts place considerable responsibility and discretionary authority on licensing boards and councils to ensure that the pharmacy practitioners conform to both legal and ethical standards in order that public safety may be maintained with a minimum of restriction on the use of drugs.

It is seen that each provincial Pharmacy Act is both a licensing and a sales statute. In the first place, the Act prescribes the academic courses, examinations and apprenticeship requirements for registration, and secondly, provides for certain restrictions on the sale of drugs. In general these restrictions apply to four groups of drugs:

1. A group of drugs which may be sold by other than a registered pharmacist. This includes such drugs as acetylsalicylic acid, castor oil, Epsom's salts, tincture of iodine, etc., and the drugs registered under the Proprietary or Patent Medicine Act.

2. A group of drugs which may be sold only to persons who are known to the registered pharmacist and for which a register of sale is maintained which must be signed by the purchaser. This group of drugs is usually referred to as the Poison Schedule and includes such drugs as carbolic acid, croton oil, strychnine, mercurial salts, methyl alcohol, etc.

3. A group of drugs which may be sold only on the prescription of a person qualified by provincial law to prescribe drugs, e.g., physicians, dentists, and veterinary surgeons. This group of drugs includes all of the drugs restricted to prescription requirements (Schedule F) under the Food and Drugs Act, as well as additional drugs deemed by the respective provincial licensing bodies to require a prescription before dispensing by a registered pharmacist. The latter group of drugs is not uniform between provinces.

4. A group of drugs which makes up the balance of the pharmaceutical preparations which can only be handled by a registered pharmacist, but in respect of which over-the-counter sale is permitted.

In contrast to the requirements for drugs under the federal Food and Drugs Act which involve standards for drugs, labeling and other requirements which are

necessary in connection with their use, the provincial Pharmacy Acts are concerned primarily with imposing conditions of sale. In some respects the provincial legislation duplicates rather than conflicts with the federal requirements.

The lack of uniformity of legislation and requirements between provinces creates difficulties at times from an economic standpoint. It was primarily the lack of uniformity in the provincial prescription requirements that led the Dominion Council of Health in 1941 to recommend that the Federal Government enact regulations for the control and distribution of certain drugs to a prescription from a duly authorized practitioner.

CHAPTER II

PRESENT METHODS OF PRODUCTION AND DISTRIBUTION OF DRUGS IN CANADA

PRODUCTION OF DRUGS

The drug industry comprises what is generally known as the medicinal and pharmaceutical preparations industry, which may be divided into four different groups: chemical, ethical pharmaceutical, biological, and proprietary.

The manufacturers of medicinal chemicals are primarily concerned with active ingredients that go into the compounding of pharmaceutical preparations. Pharmaceutical or medicinal chemicals are considered raw materials. Since the market for pharmaceuticals in Canada does not appear to be large enough to support a raw materials industry, a large percentage of the raw materials used in compounding into dosage form must be imported from the United States, Britain, and continental Europe.

Beginning with raw materials from the chemical producers, the ethical pharmaceutical manufacturers compound and formulate therapeutic substances in such dosage forms as tablets, capsules, and ampoules. Their products are promoted exclusively within the medical and pharmaceutical professions, hence the term "ethical". These preparations reach the public through hospital and retail pharmacies on the prescription or recommendation only, of physicians, dentists or veterinarians.

Manufacturers of biological products comprise a division of the ethical pharmaceutical manufacturing industry. These companies produce in dosage form vaccines, sera, toxoids and analogous products.

A number of companies manufacture what is commonly referred to as patent medicines or home remedies used for the relief of minor or temporary ailments. These products can be purchased without prescriptions and are advertised directly to the public. The scope of this study is such that reference to the manufacture of proprietary medicines will be incidental.

Generally speaking, an ethical pharmaceutical manufacturer is one who combines the functions of research, production, formulation, and marketing into one organization. Most large companies are equipped for or have access to the fruits of biological, pharmaceutical, and chemical research. In these processes they seek out new drugs, test them on animals, formulate the drugs into dosage forms that can be given to patients, and arrange for clinical trials with physicians in hospitals and universities. It is this particular group of manufacturers with which this study is concerned.

THE DRUG INDUSTRY AND ITS MAGNITUDE

Factory shipments from manufacturing plants in Canada chiefly engaged in making ethical pharmaceuticals, proprietaries and similar commodities, were valued at $164,897,000 in 1960 (Table 1). This figure represents a negligible increase over 1959 but an increase of 76 per cent over the 1953 figure.

Table 2 shows that the number of establishments engaged chiefly in the manufacturing of pharmaceuticals and medicines decreased from 217 in 1953 to 198 in 1960. The provincial distribution of these 198 establishments is as follows, including the number of employees and the selling value of factory shipments.

	Number of Establishments	*Number of Employees*	*Selling Value of Factory Shipments*
			$
Newfoundland	1)		
Nova Scotia	1)	14	254,866
New Brunswick	1)		
Quebec	90	3,636	74,960,290
Ontario	87	4,194	87,586,778
Manitoba	5	97	1,603,953
Alberta	3	4	17,882
British Columbia	9	49	472,997
Canada	198	7,994	164,896,766

It is evident that the manufacturing establishments are concentrated in Ontario and Quebec, which jointly account for 98 per cent of all employees and 99 per cent of the selling value of factory shipments of medicinal and pharmaceutical preparations in Canada.

It seems that many of these 198 plants are small regional concerns, while others manufacture proprietary medicines exclusively. Probably more than two-thirds of the plants are what might be considered multi-line pharmaceutical manufacturers. Approximately three-quarters are multi-line proprietary manufacturers. The remainder comprise agents, wholesalers and retailers who also manufacture some medicinals plus packaging concerns and other suppliers.

TABLE 1

SELLING VALUE[a] OF FACTORY SHIPMENTS[b] AND CUMULATIVE PERCENTAGES, BY RANGE OF SELLING VALUE OF FACTORY SHIPMENTS, MANUFACTURERS[c] OF PHARMACEUTICALS AND MEDICINES, 1953, 1955, 1957, 1959 AND 1960

Range of Selling Value of Factory Shipments	1953		1955		1957		1959		1960	
	Selling Value of Factory Shipments	Cumulative Percentage	Selling Value of Factory Shipments	Cumulative Percentage	Selling Value of Factory Shipments	Cumulative Percentage	Selling Value of Factory Shipments	Cumulative Percentage	Selling Value of Factory Shipments	Cumulative Percentage
	$		$		$		$		$	
Under $10,000	187,944	.2	182,478	.2	152,203	.1	118,370	.1	140,562	.1
$10,000–$24,999	464,211	.7	392,504	.5	412,293	.4	317,836	.3	370,728	.3
$25,000–$49,999	729,114	1.5	645,529	1.1	686,888	.9	652,855	.7	716,685	.7
$50,000–$99,999	2,031,556	3.6	1,841,106	2.8	1,872,760	2.2	1,643,951	1.7	1,080,500	1.4
$100,000–$199,999	3,967,823	7.9	3,906,020	6.4	2,868,866	4.3	3,820,202	4.0	3,374,140	3.4
$200,000–$499,999	7,940,469	16.4	8,643,935	14.4	10,602,915	11.8	10,919,560	10.6	10,565,422	9.9
$500,000–$999,999	19,613,480	37.3	17,568,252	30.7	10,894,315	19.6	8,576,546	15.8	10,878,510	16.5
$1,000,000–$4,999,999	34,210,152	73.9	55,299,786	81.8	63,066,887	64.6	63,549,976	54.4	70,546,467	59.2
$5,000,000 and over	24,412,419	100.0	19,642,124	100.0	49,535,802	100.0	75,133,740	100.0	67,223,752	100.0
Total	93,557,168	—	108,121,734	—	140,092,919	—	164,733,036	—	164,896,766	—

(a) Excluding sales tax or excise duties.

(b) Including patent medicines, veterinary medicines, disinfectants, insecticides, flavouring extracts, and toilet preparations.

(c) Manufacturers chiefly engaged in the production of pharmaceuticals and medicinal preparations.

Source: Dominion Bureau of Statistics, *The Medical and Pharmaceutical Preparations Industry, 1953 to 1960*, Ottawa.

TABLE 2

NUMBER OF ESTABLISHMENTS ENGAGED IN MANUFACTURING PHARMACEUTICALS AND MEDICINES AND CUMULATIVE PERCENTAGE, BY RANGE OF SELLING VALUE OF FACTORY SHIPMENTS, 1953, 1955, 1957, 1959 AND 1960

Range in Selling Value of Factory Shipment	1953		1955		1957		1959		1960	
	Number of Establishments	Cumulative Percentage	Number of Establishments	Cumulative Percentage	Number of Establishments	Cumulative Percentage	Number of Establishments	Cumulative Percentage	Number of Establishments	Cumulative Percentage
Under $10,000	38	17.5	38	18.1	35	16.9	23	12.2	29	14.6
$10,000 – $24,999	28	30.4	22	28.6	26	29.5	20	22.8	22	25.7
$25,000 – $49,999	21	40.1	19	37.6	19	38.7	17	31.8	21	36.3
$50,000 – $99,999	28	53.0	25	49.5	24	50.3	22	43.5	15	43.9
$100,000 – $199,999	28	65.9	27	62.4	20	60.0	25	56.8	23	55.5
$200,000 – $499,999	25	77.4	28	75.7	33	75.9	31	73.3	32	71.7
$500,000 – $999,999	27	89.8	24	87.1	16	83.6	12	79.7	16	79.8
$1,000,000 – $4,999,999	18	98.1	24	98.5	27	96.6	28	94.6	31	95.5
$5,000,000 and over	4	100.0	3	100.0	7	100.0	10	100.0	9	100.0
Total	217	–	210	–	207	–	188	–	198	–

Source: Dominion Bureau of Statistics, *The Medical and Pharmaceutical Preparations Industry, 1953 to 1960*, Ottawa.

Historically, as indicated in Tables 1 and 2, there has been a slight trend towards concentration in large manufacturers of medicinal and pharmaceutical preparations. In 1953, there were 22 companies, representing about 10 per cent of all companies involved primarily in drug manufacturing, which reported a value of factory shipments in excess of $1,000,000. Their shipments accounted for 63 per cent of the business. In 1960, however, 40 companies, representing 20 per cent of all companies and reporting a value of factory shipments of more than $1,000,000 accounted for nearly 84 per cent of the total reported value of factory shipments.

As already noted by Dr. Pugsley in Chapter I, there is a clear distinction between "drugs" as defined in the Food and Drugs Act and "patent medicines" or "proprietaries" which are registered under the Proprietary and Patent Medicine Act. The latter are non-prescribed drugs. The data, as shown below, clearly demonstrate that the value of factory shipments of "proprietary" preparations is declining in relation to the total value of factory shipments. In contrast, the proportion of human pharmaceuticals[1] increased by nearly 5 per cent between 1953 and 1960.

	1953		*1957*		*1960*	
	$'000	Per Cent of Total	$'000	Per Cent of Total	$'000	Per Cent of Total
Total value of factory shipments	93,557		140,092		164,897	
Proprietary medicines	18,561	19.8	22,326	15.9	24,443	14.8
Human pharmaceuticals	66,304	70.9	99,428	71.0	124,095	75.3
Veterinary medicines	1,525	1.6	2,531	1.8	3,783	2.3
Insecticides, disinfectants and the like	7,167	7.7	15,807	11.3	12,576	7.6

PATENTS AND THEIR IMPLICATIONS

In Canada, the Patent Act[2] provides for compulsory licensing on general grounds applicable to patents in all fields. There are also provisions of general application in the Combines Investigation Act under which the Exchequer Court of Canada may, among other remedies, grant licences in certain situations where a patent or patents have been used to restrain or injure trade.

The Patent Act also contains a specific provision relating to compulsory licensing of patents relating to food and drugs. Section 41(3) of the Act reads as follows:

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[1] This is the closest approach, in terms of value, to the concept of "ethical drug".

[2] R.S.C., 1952, Chapter 203.

> "41(3) In the case of any patent for an invention intended for or capable of being used for the preparation or production of food or medicine, the Commissioner shall, unless he sees good reason to the contrary, grant to any person applying for the same, a licence limited to the use of the invention for the purposes of the preparation or production of food or medicine but not otherwise; and, in settling the terms of such licence and fixing the amount of royalty or other consideration payable the Commissioner shall have regard to the desirability of making the food or medicine available to the public at the lowest possible price consistent with giving to the inventor due reward for the research leading to the invention."

It should also be noted that the Patent Act contains a restriction whereby a patent may not be issued for a food or drug produced by a chemical process but only for the process or for the product when produced by such process. This restriction is set out in section 41(1) of the Act:

> "41(1) In the case of inventions relating to substances prepared or produced by chemical processes and intended for food or medicine, the specification shall not include claims for the substance itself, except when prepared or produced by the methods or processes of manufacture particularly described and claimed or by their obvious chemical equivalents."

In summary, in the case of a drug produced by a chemical process, only the method of producing the drug, or the drug when produced by that method, may be patented in Canada. Subject to this restriction, which means that only a process patent may be issued in respect of such drugs, drugs may be patented in Canada. Many drugs, and particularly the newer antibiotic and ataraxic drugs, are the subjects of patents (process or product, as the case may be) and the manufacture, importation and sale of these drugs in Canada are controlled by the holders of the patents or their licensees.

In most fields, a patent is approved for a period of 17 years, but in the area of pharmaceuticals the 17 years' legal protection is virtually eliminated by the compulsory licensing provision of Section 41(3) of the Patent Act. The compulsory licensing provision, it is said, not only gives the Canadian manufacturer an opportunity to acquire patent rights by compulsory means, but also results in voluntary licences. "From the owner's standpoint, it is not always worth the expenses involved in contesting an application for a compulsory licence at Ottawa. The applicant usually applies to the owner first and where the applicant is manufacturing in Canada and has facilities with which to make the product, the owner will often attempt to obtain the best terms possible from the applicant without resorting to legal action."[1]

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[1] "Submission to the Royal Commission on Health Services by the Canadian Pharmaceutical Manufacturers Association, Toronto, May 18, 1962", p. 89.

Information about compulsory licences issued in respect of patents on certain drugs is contained in a return compiled by the Patent Office in answer to the following question asked in the House of Commons:

"1. Are any patents held for each of the pharmaceuticals of (a) nystatin; (b) tyrothricin; (c) neomycin; (d) dihydrostreptomycin; (e) streptomycin; (f) tetracycline; (g) oxytetracycline; (h) meprobamate; (i) chlorpromazine; (j) chlorothiazide; (k) chlortetracycline; (1) erythromycin; (m) chloramphenicol; (n) penicillin?

2. If so, and for each of the said pharmaceuticals what are (a) the names and addresses of the patentees; (b) the dates upon which each patent was issued?

3. Has the Commissioner of Patents issued any licences for the production of any of the said pharmaceuticals?

4. If so, for each such pharmaceutical what are (a) the names and addresses of the licencees; (b) the date upon which each such licence was issued?"

(*Hansard*, February 24, 1960)

The return had the following introductory note:

> "A search of the Canadian Patent Office files has revealed the following information on patents for the various pharmaceuticals listed by Mr. Howard. Most of the products listed are governed by Section 41 of the Patent Act, so that many of the patents are directed to processes and product claims dependent on such processes, without claims to the products claimed independently of a process. In other instances the compounds may be prepared by biological processes (as opposed to chemical processes) so that the product is not governed by Section 41, and product claims independent of a process may have issued to patent. For some of the products many different patents have been issued directed to different processes of preparing or separating the product, to improvements in the products, to derivatives of the product or to specialized compositions in which the product is used. Most of these are listed below though because of the complexity in searching all possible aspects of such inventions it may be a few are not included. We have not, for instance, listed patents for animal fodders in which some pharmaceuticals are now incorporated to promote weight gains in livestock. The search has been complicated by the fact that many of the products went under several different names during their early development.
>
> "We have given the names of the owners of the patents concerned at the time the patents were issued. They may, of course, have been assigned or reassigned to others since that date."
>
> The information contained in the return could be summarized as follows:

Most of the large ethical drug firms in Canada it should be noted, are subsidiaries or branches of foreign companies, many of which carry on world-wide operations. These foreign-based firms have developed their own specialties which they promote in whatever country they do business.

Out of nearly 395 patents granted for the 14 pharmaceutical products on which information was requested, only 9 patents were being held by three genuinely Canadian firms and only two other Canadian companies were licenced holders from U.S. firms for 3 drugs.

It is stated in the "Report on Patents of Invention" submitted by the Royal Commission on Patents, Copyright and Industrial Designs (Ottawa, 1960) that between August 1, 1935, and December 1959 there have been 14 applications to the Canadian Patent Office for compulsory licences under Section 41, of which four licences have been granted and three licences have been refused, the remaining applications being either abandoned or withdrawn and pending. To sum up, only 14 applications have been made in 24 years.

Parenthetically, it might be observed here that prices of certain drugs – certainly at the manufacturers' level – are affected by the control over the manufacture, distribution and sale of such drugs exercised through patents. Although it is extremely difficult to evaluate in precise amounts the effects on the retail price of pharmaceuticals, it would be unrealistic to assume that patents are not a major factor in the pricing of a large number of ethical drugs.

FOREIGN CONTROLLED COMPANIES MANUFACTURING MEDICINAL AND PHARMACEUTICAL PREPARATIONS

The "Green Book" states [1] that foreign firms are very important in the drug field in Canada. Some foreign firms simply operate branches in Canada but the great majority operate subsidiary Canadian companies. In some cases, the relationship is more complex than that of simple parent and subsidiary companies; there may be other intermediate companies, holding companies or common ownership of stock involved. Out of approximately 276 companies involved in the manufacturing of medicinals and pharmaceutical preparations 79 companies are either branches or subsidiaries of United States companies and 18 are either branches or subsidiaries of European and British companies. It is of interest to note also that an additional 23 Canadian companies are distributors for foreign pharmaceutical products; it is not known to what extent these distributors are controlled by foreign companies. The remaining 156 companies seem to be Canadian controlled, but it should be observed that the great majority of those Canadian companies are small in size, and mostly involved in the production and distribution of proprietary medicines, household remedies, and sundry drugs.

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[1] "Material Collected for Submission to the Restrictive Trade Practices Commission in the Course of an Inquiry under Section 42 of the Combines Investigation Act, Relating to the Manufacture, Distribution and Sales of Drugs" by Director of Investigation and Research, Combines Investigation Act, Department of Justice, Ottawa, 1961, p. 63 and pp. 263–284.

In Appendix B [1] of the Submission to the Royal Commission on Health Services by the Canadian Pharmaceutical Manufacturers Association, the names of the 57 members of the Association are listed. Out of these 57 members 34 companies are subsidiaries or branches of United States firms, 9 are subsidiaries or branches of European and British firms, and 7 are Canadian-controlled companies. Not enough information is available to identify ownership among the remaining 7 companies.

Although the number of Canadian firms which are controlled by foreign companies is itself of interest, the most significant aspect seems to be the volume of sales reported by foreign-controlled companies.

In a survey [2] of 40 companies undertaken by Clarkson, Gordon and Co. for the year 1960, it is shown that these 40 companies reported sales of human pharmaceuticals [3] that reached $107,994,000,[4] representing nearly 90 per cent of all ethical drugs sold in Canada. Of these 40 companies, 4 appear to be Canadian owned and controlled. Thirty-six companies, which are among the largest suppliers of ethical drugs in Canada, are either branches or subsidiaries of 28 United States and 8 European companies.

It is evident that conditions in the drug industry in Canada are largely related to and influenced by conditions in the industry in the United States; in fact in many respects the Canadian market may be considered as simply an extension of the United States market.

FINANCIAL OPERATIONS OF PHARMACEUTICAL MANUFACTURING COMPANIES

A Survey [5] of the financial operations of the largest pharmaceutical manufacturing companies in Canada has been made for 1958, 1959, and 1960; the findings are presented in Table 3. It should be noted that the sales of the 40 companies included in the 1960 Survey represented nearly 90 per cent of all the ethical drugs sold in Canada.

Profits

It will be observed from this Survey that, in 1960, profits after taxes were 5.5 per cent of the sales dollar, compared with 6.2 per cent in 1959 and 6.5 per cent in 1958. The average profit after taxes for all manufacturing in Canada is shown as 4.4 per cent in 1960, 5.1 per cent in 1959, and 4.6 per cent in 1958. The

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[1] *Ibid.* p. 35.

[2] "Submission to the Royal Commission on Health Services by the Canadian Pharmaceutical Manufacturers Association", *op. cit.*, p. 117.

[3] Excluding veterinary or proprietary medicines.

[4] Gross sales including sales tax.

[5] The Canadian Pharmaceutical Manufacturers Association, *op. cit.*, p. 37.

Survey indicates that from 1958 to 1960 the profit margin of the pharmaceutical industry was proportionately larger than that of all manufacturing industries taken together in Canada.

During the same period profits [1] before corporation income taxes ranged from 12.2 per cent to 11.1 per cent for drug manufacturers as compared with 9.3 to 8.2 per cent for all manufacturing industries.

TABLE 3

FINANCIAL OPERATIONS, IN PERCENTAGES, OF PHARMACEUTICAL MANUFACTURING COMPANIES(a) AND ALL MANUFACTURING INDUSTRY(b) IN CANADA, YEARS 1958, 1959 AND 1960

	1958		1959		1960	
	Pharmaceutical	All Industry	Pharmaceutical	All Industry	Pharmaceutical	All Industry
	%	%	%	%	%	%
Income						
1. Total net sales	98.9	99.2	98.8	98.8	98.6	98.7
2. Other income	1.1	0.8	1.2	1.2	1.4	1.3
Total Income	100.0	100.0	100.0	100.0	100.0	100.0
Expenses						
1. Wages and salaries	23.7	22.0	22.8	21.9	24.3	21.5
2. Employee benefits	1.8	1.6	1.7	1.7	1.9	1.7
3. Materials	32.7	46.5	32.3	46.2	28.7	44.5
4. Excise and sales tax	5.1	3.5	6.0	3.0	6.2	4.7
5. Other expenses	23.2	14.2	23.4	13.4	26.2	15.2
6. Depreciation	1.5	4.0	1.6	3.6	1.7	4.1
7. Taxes on income	5.5	3.6	6.0	4.2	5.5	3.9
8. Profit	6.5	4.6	6.2	5.1	5.5	4.4
Total Expenses	100.0	100.0	100.0	100.0	100.0	100.0
Profit before Taxes on Income	12.0	8.2	12.2	9.3	11.1	8.3

(a) Including 28 companies in 1958, 43 in 1959, and 40 in 1960.

(b) Survey made by the Canadian Manufacturers' Association.

Source: Submission to the Royal Commission on Health Services by the Canadian Pharmaceutical Manufacturers Association, Toronto, May 18, 1962, p. 37.

[1] The "Green Book" (p.147) reports that 28 manufacturers of ethical drugs, with sales in excess of one million dollars each, had experienced (presumably in 1959) an average profit of 17.08 per cent of sales, ranging from 37.79 per cent to a loss of 1.2 per cent.

Expenses in the Form of Wages and Salaries

As shown in Table 3, more than one quarter of the total sales dollar of the drug manufacturers in 1960, or 26.2 per cent, went for wages, salaries, [1] and employee benefits. For all manufacturers combined the percentage was slightly lower, at 23.2.

Expenses in the Form of Materials

Materials [2] used in manufacturing drugs represent a much smaller percentage of total sales than that for all manufacturing industries. Materials for drug manufacturing range from 32.7 per cent of total sales in 1958 to 28.7 per cent in 1960, as compared with 46.5 per cent to 44.5 per cent for the entire manufacturing industry.

Other Expenses

"Other expenses" [3] of drug manufacturers take a much larger proportion of total sales-receipts than similar expenses experienced by all manufacturers. In 1958, 23.2 cents of every dollar of sales were allocated to "other expenses". In 1960, the amount had reached 26.2 cents. Similar figures for all manufacturing were 14.2 cents and 15.2 cents.

Expenses in the Form of Medical Promotion, Detailing, and Direct Selling

According to the survey, 40 manufacturers of ethical drugs spent in 1960 $31.5 million or 29.2 per cent of the total sales dollar for medical promotion, detailing, and direct selling. These amounts are itemized as follows:

	Amount	*Per Cent*
Total Sales of Ethical Drugs	$107,994,000	100.0
Expenses on Medical Promotion		
Medical exhibits	$206,000	0.2
Medical and pharmaceutical journals	$2,030,000	1.9
Direct mail	$3,048,000	2.8
Samples	$3,953,000	3.7
Total, Medical Promotion	$9,237,000	8.6

[1] Wages and salaries include management salaries, directors' fees, and payments from profit-sharing or production-incentive plans.

[2] Includes raw materials, finished and semi-finished materials, materials purchased for resale, materials consumed in processing operations, and packaging and shipping materials. Excludes plant supplies.

[3] The survey defined "other expenses" as plant supplies, power, water, municipal taxes, maintenance, repairs to buildings, machinery and equipment, office, administrative and selling expenses, charitable and interest expense.

	Amount	*Per Cent*
Expenses on Detailing		
Detailmen, salaries and wages	$6,640,000	6.1
Detailmen, travel and other expenses	$3,098,880	2.9
Total, Detailing	$9,738,880	9.0
Direct Selling Expenses		
Donations	$192,000	0.2
Sales representatives	$3,735,000	3.5
Expenses of sales representatives	$1,743,120	1.6
Other selling expenses (price lists, institutional advertising, displays, etc.)	$6,882,000	6.4
Total	$12,552,120	11.6
Grand Total	$31,528,000	29.2

Expenses in the Form of Medical Promotion

The foregoing data reveal that 8.6 cents of the total sales dollar were spent on medical promotion, of which 2.8 cents were attributed to direct mail and 3.7 cents to samples. It is estimated that the average cost of keeping the medical profession informed on developments regarding pharmaceutical products in 1960 amounted to $12.90 [1] per doctor per company, or $516.03 for each doctor by all the companies combined.

The Canadian Pharmaceutical Manufacturers Association reported that the 3.7 cents of the sales dollar spent on samples represented all forms of sampling, including those of new and old products requested by physicians for trial and indigent use. Not all samples are sent to all physicians. Some are restricted to specialists, while others are distributed only on request to a limited number of practitioners.

Policy and practice in this regard were elaborated by the manufacturers in response to queries from the Royal Commission on Health Services.

> "The objective of sampling is to give physicians samples of a certain product so that they can evaluate the product's usefulness in practice. For this reason, unsolicited samples are invariably accompanied by medical literature explaining the product in detail.
>
> "Generally, a physician will not prescribe a product which he has not used before, merely on the manufacturer's recommendation. This applies to both new products and those which have been available for some time. After studying the available literature, he will want to test the product clinically. Hence the main reason for samples.

[1] Based upon an estimated 17,900 medical practitioners that received information on pharmaceuticals.

"Again, experience has shown that physicians will often give a patient a sample of a drug as a 'starter dose' for interim treatment until the patient can get a prescription filled. Similarly, many doctors carry samples in their bags for this purpose during night or emergency calls. To a lesser extent, some physicians will test the reaction of a certain medication on a patient before giving the patient a prescription for the product.

"For these reasons, sampling is essential to the marketing of pharmaceuticals. It is also a valuable aid to the medical profession, and it is inconceivable that physicians should be required to purchase pharmaceuticals for the uses outlined above.

"The practice of sampling has been under careful study by our individual companies, particularly in recent years. A number of firms distribute samples only on request, others quite selectively. A commercial mailing house which specializes in sending direct mail to physicians for pharmaceutical companies, Canadian Mailings Ltd. of Toronto, recently stated: 'Currently, pharmaceutical companies are more selective in their approach to the market than they ever were in the past. The days of mass mailings of samples or literature have gone into the limbo of forgotten things.' At the same time, however, sampling does meet a need for the medical practitioner. One company recently completed an extensive survey of 3,000 Canadian doctors. Of these, 90 per cent signed authorizations calling for continuous supplies of samples of specific products."[1]

Expenses in the Form of Detailing (other than Direct Selling)

In 1960, the salaries, wages, travel, and other expenses of detailmen totalled slightly more than expenses allocated to medical promotion. Detailing took approximately $9.7 million or 9.0 per cent of the sales dollar. This amount represents about $544 for each doctor in the course of a year.[2]

A survey made by the Canadian Pharmaceutical Manufacturers Association indicates that, in February 1962, 49 companies, members of the Association, employed a total of 1,647 detailmen and salesmen. Following is an analysis of the numbers of detailmen and salesmen employed by these 49 companies.

7 firms employ from 4 to 9 each
6 firms employ from 15 to 19 each
8 firms employ from 21 to 29 each
4 firms employ from 35 to 39 each
10 firms employ from 40 to 49 each
6 firms employ from 51 to 57 each
8 firms employ from 62 to 70 each

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[1] "Answers to Specific Questions Received from the Royal Commission on Health Services and Provided by Canadian Pharmaceutical Manufacturers Association, April 30, 1962."

[2] Based upon an estimated 17,900 medical practitioners that received information on pharmaceuticals.

While the bulk of these 1,647 men are employed in detailing doctors, all are not so engaged. For example, three of these firms (involving a total of 28 salesmen) are considered as suppliers to the industry and their men do not call on doctors. Similarly, two companies have a large volume of their business in surgical instruments and many of their men do not detail pharmaceuticals. Again some companies also sell fine chemicals or proprietaries.

Based on these factors, it is estimated that of the 1,647 representatives, approximately 1,500 spent all or part of their time in calling on medical practitioners.

The tasks of a detailman can be described as follows:

"He informs physicians of the therapeutic natures and actions of his company's products, including indications and recommended dosage, contraindications, toxicity and other related factors.

"He serves as a local contact between the company and the physicians in his area. In this respect, he is immediately available to assist the practitioner with more specific information on his company's products. Companies invariably prepare comprehensive product brochures on each of their products. In view of space limitations, it is not possible to include all of this information in journal advertisements. In addition, it would be costly to send these brochures to all doctors. In most cases, they are made available on request. When a physician requires further information on a product brought to his attention in an advertisement, he contacts or waits for the call of the local detailman who then discusses the product with the doctor, leaves a copy of the brochure and a sample of the product. If the doctor requires additional information, the detailman obtains it for him from the company's medical department. In this respect, the detailman assists the physician in obtaining in a minimum of time the important points about a product, which otherwise he could only obtain by the time-consuming study of reams of printed materials.

"The detailman calls on the physicians in his area at periodic intervals to keep the practitioners informed of product developments which they may not have noticed in journals or direct mail advertisements.... Doctors receive approximately 69 per cent of their first information on new products from detailmen....

"While the promotion of his company's products is the principal function of the detailman, he actually spends more time on servicing his company's trade and professional customers, providing information on request and other selling functions than he does on direct promotion.

"Information bulletins are an essential part of the direct mail programs of our member companies, but they do not replace the duties of our detailmen.... an average of some 69 per cent of first information on new products comes from detailmen, while direct mail comes second with an average of

about 18 per cent. Obviously, direct mail is not sufficient by itself as a means of informing physicians, and an information bulletin by itself would be no more effective.

"Regardless of the effectiveness of an information bulletin, companies would still be required to maintain a system of field representatives from coast to coast in order to provide the many services which cannot adequatly be handled by mail."[1]

Direct Selling Expenses

Direct selling expenses other than expenses on medical promotion and detailing in 1960 represented 11.6 per cent of total sales of the 40 companies referred to above.

"Direct selling varied considerably from company to company, but appeared to average between 40 to 50 per cent of the total time of the detailmen for [a sample[2] of] 31 companies. However, the weighted average for all companies in the Survey represented 36 per cent of the time of detailmen spent in direct selling.

"Duties other than calling on doctors include visiting pharmacists, hospitals, institutions and general servicing for the company, [and] serving as on-the-spot point of contact for clinical investigators...."[3]

Expenses on Research and on Development of New Drugs

In a survey[4] conducted in 1960, it was reported that 35 major drug manufacturers operating in Canada spent $9,551,000, or 8.3 per cent of net sales, on all forms of research and development including grants to hospitals. Of this amount only $3,349,000, or 3.9 per cent of net sales, were spent in Canada. The other $6,202,000 were spent elsewhere but were attributed by the manufacturers to the interests of their Canadian subsidiaries.

Another survey[5] was conducted under the Combines Investigation Act into the activities of 27 major drug manufacturers operating in Canada in May 1960. These firms spent a total of $2,010,000 on research and development in Canada.[6]

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[1] "Answers to Specific Questions Received from the Royal Commission on Health Services and Provided by Canadian Pharmaceutical Manufacturers Association, April 30, 1962."

[2] That is to say, the 31 companies reporting that their detailmen did engage in direct selling. The other 8 reported that their detailmen did not undertake direct selling.

[3] "Answers to Specific Questions Received from the Royal Commission on Health Services and Provided by Canadian Pharmaceutical Manufacturers Association, April 30, 1962".

[4] Canadian Pharmaceutical Manufacturers Association, p. 59.

[5] The "Green Book", pp. 108–110, 127, and 130.

[6] Two of the firms did no research in Canada but charged to their Canadian subsidiaries the costs of some research done abroad; these costs are included here.

This was 2.12 per cent of the net sales of the 21 firms that actually spent money on research and development, their net sales being $94,600,000; but because 6 of the 27 surveyed firms spent no money on research or development, the actual percentage that research and development expense was of net sales over the entire 27 must have been lower than 2.12. It cannot be determined how much lower, because the total net sales of the 27 firms are not reported in the publication.

From the same survey it can be seen that half the firms spent 0.68 per cent or less of their net sales revenue on research and development. Eight per cent was the highest reported by any company, and only four spent over 3 per cent. Fourteen of the 27 spent less than 1 per cent of their sales revenue for research and development.

Even disregarding the 6 that did not do any research or development, the halfway point is still only 0.86 per cent; half the spending firms spent that or less.

From the foregoing it can be concluded that available evidence does not substantiate any suggestion that expenses for research and development are a major factor in the price of drugs.

Expenses on Quality Control

To hospital authorities and practising physicians, it seems that the reputation of a drug manufacturer is the primary determinant of the reliability of his products. Drug manufacturing is predicated upon exacting requirements regarding quality, content, uniformity, and properties of the product, simply because failure to meet standards can mean life or death. Quality control must be maintained at all stages through the manufacturing process. Drugs which are identical in chemical structure are not necessarily identical in all other respects. Both may fill pharmacopoeia requirements and still differ in their effects on patients.

It is not unlawful in Canada for manufacturers to lack good quality-control. Thoughtless manufacturers could cut corners. According to the Canadian Pharmaceutical Manufacturers Association, the federal Food and Drug Directorate cannot possibly check every batch of drugs produced. There are a minimum of 76,000 batches produced each year by the major companies, and countless other batches imported or made by small companies. Testing all these by the government would cost $5,000,000 a year at least, plus laboratories and equipment.

A survey [1] of the latest year's activities of 27 major companies that operated in Canada in May 1960 revealed that they spent $1,120,000 on quality

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[1] The "Green Book", pp. 108–110, 143, 145.

control in this country. This was equivalent to 1.21 per cent of net sales for the 21 firms actually spending money on quality control, and certainly to a smaller percentage than that for the entire 27. Six made no expenditures on quality control. The report of the survey does not reveal their net sales; the other 21 sold $93,020,000.[1]

No firm spent as much as 3 per cent of its net sales revenue on quality control (one spent 8 per cent on research), although 19 spent two-thirds of one per cent or more on quality control as against only 14 spending that much on research. Furthermore, while the total research expenditures were close to double those for quality control, 10 of the 27 surveyed firms spent more for quality control than for research.

From the preceding discussion it can be seen that quality control, like research, is not demonstrably a major factor in the price of drugs.

COST AND SELLING PRICES OF SELECTED DRUGS AT THE MANUFACTURERS' LEVEL

Figures on the costs and selling prices of selected drugs at the manufacturers' level are shown in Table 4. "Manufacturers' cost" represents the "factory cost" or prime cost of the raw material and excludes any element of expenses for research, administration, promotion, selling, or detailing. In some cases the manufacturers' cost is the price for bulk purchasing. In other cases, it represents the price of already finished or semi-finished or packaged material paid to the raw material suppliers. These suppliers are in most cases the foreign-controlled companies that are selling the basic drug to subsidiaries or branches established in Canada.

List price is that suggested by the manufacturer and, in the retail drug field, this price is the one charged to the consumer plus a dispensing fee on each billing of the prescription.

The relationship between price and cost does not represent the profit experienced by the manufacturer, but the mark-up involved for selected drugs. Profits and business expenses have been described in previous sections and should be used to judge the financial performance of drug manufacturers. It is believed that it might be unfair to assess the whole financial operations of drug manufacturers by analyzing the mark-up made on one or two large volume products.

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[1] Note that these 21 firms were not the same 21 as those whose research activities were discussed in the previous section, but the data were collected in the same survey and the 27 surveyed firms were identical.

TABLE 4

COSTS AND SELLING PRICES OF SELECTED DRUGS AT THE MANUFACTURERS' LEVEL

A — ANTIBIOTICS

Generic Name	Brand Name	Manufacturer's Cost	List Price	Price to Retail Pharmacist	Price to Wholesaler	Price to Hospital	Starkman Price by Generic Name to Physician	Gilbert Price by Generic Name	Empire Price by Generic Name to Physician
Erythromycin 250 mg.	Erythrocin Abbott	$4.96/100	$47.70/100	$28.05/100	$27.19/100	$20.98/100			
Novobiocin 250 mg.	Albamycin Upjohn	$14.64/100	$50.50/100	$30.30/100	$30.30/100				
	Cathomycin Merck	$8.16/100	$50.50/100	$30.30/100	$25.25/100	$17.00/100			
	Albamycin T Upjohn	N.A.	$36.25/100	$21.75/100	$21.75/100	$19.59/100			
Tetracycline 250 mg.	Achromycin Lederle	$644.15 kg.	$43.13/100	$25.88/100	$25.88/100	$3.49/16 Bid: 20,000 lot ($21.00/100)		$18.00/100 (Physician)	$5.28/32
								$14.40/100 (Hospital and Retail Pharmacist)	$15.60/100
	Cosa-Tetracyn Pfizer	$156.71 — $525.36 kg.	$47.84/100	$28.73/100	$23.92/100	$16.50/100 Bid: 20.000 lot			

A – ANTIBIOTICS (CONTINUED)

Generic Name	Brand Name	Manufacturer's Cost	List Price	Price to Retail Pharmacist	Price to Wholesaler	Price to Hospital	Starkman Price by Generic Name to Physician	Gilbert Price by Generic Name	Empire Price by Generic Name to Physician
Tetracycline 250 mg. (cont'd.)	Tetrex Bristol	$186.67[a] kg. or $4.67 per 100 tablets	$30.00/100	$18.00/100	$15.00/100	$14.95/100 Bid: 20,000 lot			
	Muracine Nadeau	N.A.	$32.00/100	$16.00/100	$14.40/100	$1.50/16 ($7.50/100) Bid: 20,000 lot			
Chlorotetracycline 250 mg.	Aureomycin Lederle	$476.51 kg.	$43.13/100	$25.88/100	$25.88/100	$19.18/100			
Chloramphenicol 250 mg.	Chloromycetin Parke, Davis	$9.07/100	$39.40/100	$23.60/100	N.A.	$9.82/100	$9.95/100 $86.00/1000	$12.50/100 (Physician) $10.00/100 (Hospital and Retail Pharmacist)	$11.10/100
	Enicol Intra	$5.48/100	$39.40/100	$23.82/100	$20.25/100	$10.30/100			

(a) Cost based on T.C.L activity. Including compounding, standardizing and putting into capsules and liquid formulation before sale.

B – CORTICOSTEROIDS

Generic Name	Brand Name	Manufacturer's Cost[a]	List Price	Price to Retail Pharmacist	Price to Wholesaler	Price to Hospital	Starkman Price by Generic Name to Physician	Gilbert Price by Generic Name	Empire Price by Generic Name to Physician
Prednisone 5 mg.	Meticorten Schering	N.A.	$22.70/100	$13.62/100	$11.35/100	$16.20/1000 Quantity: 25,000	$3.00/100	$5.00/100 (Physician)	$3.60/100
	Delta-Cortef Upjohn		$7.10/30	$4.26/30	$3.83/30		$14.00/500		
	Paracort Parke, Davis	$1.20/100	$7.85/100	$4.71/100	N.A.	$2.00/100	$26.50/1000	$4.00/100 (Hospital and Retail Pharmacist)	
Prednisolone 5 mg.	Meticortelone Schering	$1.57/100	$22.70/100	$13.62/100	$11.35/100	N.A.	$3.95/100 $18.50/500 $22.50/1000	$5.00/100 (Physician)	$4.80/100
Triamcinolone 4 mg.	Aristocort Lederle	N.A.	$38.39	$23.00	$23.00	N.A.			
	Kenacort Squibb	N.A.	$38.40	$25.60	$21.76	$18.65			
Dexamethasone 0.75 mg.	Decadron Merck	–	$29.80/100	$17.88/100	$15.20/100	$9.00/100			
	Deronil Schering		$29.80/100	$17.88/100	$14.90/100	$14.50/100			
Methyl-Prednisolone	Metrol Upjohn		$38.35/100	$23.01/100	$23.01/100	$20.73/100 $103.65/500			

(a) The United States Senate Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary (the Kefauver Committee) fully investigated Corticosteroids and at page 17 of its Report of May 8, 1961, the following statement is made:

"On a per tablet basis, the consumer using either prednisone or prednisolone bearing the brand name of one of the major pharmaceutical firms will pay approximately 30 cents for a pill which is sold to the druggist for some 18 cents and which can be produced for 1.5 cents or less. (An arthritic patient will frequently remain for long periods on a dosage of about 100 of the 5-milligram tablets a month; thus he pays $30 a month for his medicine, for which his druggist paid around $18 but which cost around $1.50 to produce.)"

C – TRANQUILLIZERS

Generic Name	Brand Name	Manufacturer's Cost	List Price	Price to Retail Pharmacist	Price to Wholesaler	Price to Hospital	Starkman Price by Generic Name to Physician	Gilbert Price by Generic Name	Empire Price by Generic Name to Physician and Pharmacist	Price to Prov. Mental Institutions by Generic Name
Chloropromazine 25 mg.	Largactil Poulenc	$53.00/kg. or $0.133/100	$8.90/100	$5.34/100	$4.54/100	$4.45/100 50 mg.	$22.00/1000	$2.50/100 (Physician) $2.00/100 (Hospital and Retailer)	$2.64/100	$18.00/1000 100,000 lots
Promazine 25 mg.	Sparine Wyeth	$0.05/100	$5.25/50	$3.15 to $2.99/50(a)	$3.15 to $2.99/50(a)	$17.68/500 10,000 lots	$6.25/1000			$21.00/1000
	Intrazine Intra	$0.249/100	$3.55/50	N.A.	N.A.	$1.55/100				
	Pro-Tran Mowatt & Moore	$0.0950/100	$4.75/50	$2.85/100	$2.42/100	$0.86/100				
Perphenazine 2 mg.	Trilafon Schering	$5.10/1000	$4.30/50 $37.90/500 $86.00/1000	$2.58/100		$22.05/1000				$41.20/1000 8 mg. $58.00/1000 16 mg.
Trifluoperazine 1 mg.	Stelazine SKF	$1.15/1000	$4.75/50 $95.00/1000	$2.85/50 $57.00/1000	$2.42/50	$2.50/100 5000's				$43.20/1000 5 mg. 25,000 lots
Hydroxyline 10 mg.	Atarax Pfizer	$.043/100	$6.16/100	$3.70/100	$3.08/100	$2.77/100				
Tranycypromine	Parnate SKF	N.A.	$4.25/50	$2.55/50	$2.17/50	$3.00/100 1000's				$37.00/1000

(a) Depending on the number of bottles of 50.

C — TRANQUILLIZERS (CONTINUED)

Generic Name	Brand Name	Manufacturer's Cost	List Price	Price to Retail Pharmacist	Price to Wholesaler	Price to Hospital	Starkman Price by Generic Name to Physician	Gilbert Price by Generic Name	Empire Price by Generic Name to Physician and Pharmacist	Price to Prov. Mental Institutions by Generic Name
Thioridazine 100 mg.	Mellaril Sandoz	$33.40/1000	$12.50/50 $250.00/1000	$7.50/50	$6.38/50	$9.01/100 $90.00/1000				$59.34 to $77.00/1000 100 mg. $27.44 to $32.00/1000 25 mg.
Triflu-promazine HCL 25 mg.	Vesprin Squibb	$11.39/1000	$6.75/50	$4.05/50	$3.44/50	$4.41/100 10 mg.				$41.00/1000 25 mg.
Phenelzine Dihydrogen Sulphate 15 mg.	Nardil Warner Chilcott	N.A.	$8.00/100 $38.00/500 $80.00/1000	$4.80/100 $22.80/500	$4.44/100 21.11/500	$4.32/100 $20.52/500 $32.00/1000				$31.00/1000 15 mg.
Meprobamate 400 mg.	Equanil Wyeth	$0.18/50	$5.00/50 $43.75/500	$2.85 to $3.00/50 $24.94 to $26.25/500	Same as Retail Pharma-cists	$16.21/500 25,000 lots	$9.75/1000	$1.35/100 (Physician) $1.08/100 (Hospital and Retail Pharmacist)	$1.08/100	$17.06/500 10,000 lots
	Miltown Ayerst	$1.80/500	$5.00/50 $43.75/500	$26.25/500	$26.25/500					
Imipramine Hydrochloride 25 mg. tablets	Tofranil Geigy	N.A.	$12.60/100	$7.56/100	$6.30/100	$5.38/100 5000 lot				$44.59/1000 tablets $209.00/1000 ampoules

Source: *"Royal Commission on Health Services,* statement showing prices in Alberta of a representative group of antibiotic, corticosteroid and tranquillizer drugs, filed by the Government of the Province of Alberta, February 12, 1962" and "Answers to Specific Questions Received from the Royal Commission on Health Services and Provided by the Canadian Pharmaceutical Manufacturers Association, April 30, 1962".

Nevertheless the following observations seem appropriate:

(a) Almost all the manufacturers mentioned in Table 4 are either subsidiaries or branches of foreign drug manufacturers. It could therefore be pointed out that the costs reported depend, in many cases, on the price which a foreign parent charges the Canadian branch or subsidiary for either the basic drug or the prepared or semi-prepared dosage form. These costs reflect arranged or administered prices in the sense that the price charged by the parent company may be either higher or lower than the price which would be paid by a firm buying in the open market.

(b) The costs and selling prices of each drug mentioned differ widely.

(c) All prices shown are those established by the manufacturers for a given quantity. It should be noted that in most cases the prices would decrease as the quantity bought increases.

(d) The drugs listed are the most expensive drugs sold on the Canadian market. Without attempting to establish a causal relationship, it is interesting to note that these drugs are each patented under a brand name. It is of further interest that prices quoted by Starkman, Gilbert, and Empire by generic name (Table 4) are substantially lower than prices quoted by brand name. For instance the price to retail pharmacist of Meticorten produced by Schering is $13.72 per 100 tablets; Starkman quotes by generic name a price of $3.00 per 100; Gilbert, $5.00 per 100; and Empire, $3.60 per 100.

(e) Manufacturers' prices to hospitals are in all cases much lower than the price to retail pharmacists and to wholesalers.

GENERIC NAME VERSUS BRAND NAME

There are three types of names for particular drugs. First, there is the chemical name which is descriptive of the chemical composition of the drug. Second, there is the generic name which can best be defined as the common name of the drug. Third, a particular supplier may sell the drug under a registered trade name or brand name.

A large proportion of ethical drugs are sold under trade names. Such names are particularly important in the case of drugs because they are patent controlled by one or a few firms. The principal reason for product differentiation is that advertising the promotion of a trade-named product operates in the direction of increasing a particular firm's sales. Normally, if the promotion of the drug under its trade name is successful, the brand name becomes the accepted name for the drug in the minds of the doctors who are prescribing.

In a 1960 prescription drug survey[1] which analyzed 844 prescriptions supplied by Prescription Services Incorporated of Windsor, Ontario, it was found

[1] Walker, L.C., and Hughes, F.N., "A Prescription Drug Survey", *Canadian Pharmaceutical Journal*, Vol. 94, No. 5, May 1961, p. 22.

that only 63 (for 20 different drugs) were written by physicians by a generic name; the remaining 781 (comprising 93 per cent) could be filled only by the named product on the prescription.

Similarly, in another survey conducted by the Alberta Pharmaceutical Association,[1] 3,491 prescriptions were analyzed, out of which 3,119 (comprising 89 per cent) prescriptions indicated brand name products and 243 (7 per cent) were written using generic names. Another 129 (4 per cent) required compounding in the pharmacy.

Why do physicians in private practice make such widespread use of trade names? There are several plausible reasons. From the physician's viewpoint brand names and brand-name products have certain advantages: first, brand names are relatively easy to remember; second, their relative quality is known; third, their names are usually associated with a recognizable company; fourth, it is easy to recall to mind the distinctive physical properties; and fifth, their use provides assurance that exactly the same product will be supplied to his patients or to the same patient at different times. These are not reasons unique to physicians or to the pharmaceutical industry: housewives are no doubt equally open to suggestions that they differentiate by brand in the market place.

From the standpoint of the pharmacist, the propensity of the prescribing doctor to differentiate by trade name has undoubted advantages. Nonetheless, it is worth pointing out that the alternative – prescribing by generic designations that would permit dispensing of known, reliable brands or non-brands – might enable the pharmacist to make better use of his own professional training and at the same time would permit him to carry a less extensive inventory.

It should be noted that when a prescription specifies a particular trade-named product, the pharmacist in Canada is bound to supply that product[2] and cannot substitute another brand unless he has obtained the consent of the doctor who wrote the prescription. If, on the other hand, the prescription simply specifies the drug, the pharmacist may supply any brand of the drug which is available. The extent to which trade names are used can be gathered from the arrangement of reference books which almost invariably give equal prominence to trade names as to generic names and which, moreover, index all drugs by trade names.[3]

Normally, large and long-established ethical drug firms use trade or brand names while smaller and less well-known drug firms sell certain drugs under their generic names (parenthetically, it need not be emphasized that establishing a

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[1] Restrictive Trade Practices Commission, Transcript of Hearings, Calgary, 1961, p. 1008.

[2] See Appendix A on "Some Implications of Legalized Substitution of Prescribed Pharmaceuticals" by J.M. Parker, M.D., Ph.D., Montreal.

[3] It may be noted that, while the names used are registered trade names, the usual practice in the industry is to refer to them as brand names.

brand name is very expensive). Normally, too, the smaller manufacturer sells at lower prices. Because of these two facts, it has been suggested that if doctors would prescribe drugs by generic names, the public would pay considerably less when having prescriptions filled. The Canadian Medical Association Journal [1] of January 12, 1963, estimated that 12 cents on the dollar could be saved by buying drugs under their generic names. [2] This would amount to a reduction of about 40 cents on the average prescription price in Canada. It would seem that, if the percentage is realistically derived, the fact of prescribing by generic name is not too worthwhile as a means of reducing prescription prices. Nonetheless, some price reduction can occur, and what is clearly required is a scientifically sponsored investigation into the matter.

The problem of "generic name versus brand name" raises also the question of the comparative quality of the products of different manufacturers. Many observers point out that a doctor's primary concern is with the quality of the drug which he prescribes and price to him is a secondary consideration. A cheap drug under a generic name and of equal quality to a brand-named product may be available, but, so the discussion goes, unless a doctor is personally satisfied of this fact he is likely to prescribe the brand-named product.

According to the medical profession, the best guarantee of quality in drug products is the manufacturer's reputation as represented by his name or his trademark. Therefore, it seems that the edge in quality is given to the large-scale drug manufacturer on the presumption that he is more likely to have adequate research and testing resources and has too large a stake in the prestige of his branded or trade-marked products to risk being criticized for uneven quality. Most drugs, as it happens, are batch- or sample-tested. The validity of such quality-control procedures depends greatly upon the integrity of the manufacturer. It may be argued that the act of engaging in product differentiation and identification of itself conduces to quality control because it places a heavy onus upon the manufacturer to measure up to his product claims.

To make such a statement is to imply, of course, that the undifferentiated product of the smaller manufacturer is more likely to deviate from quality standards. Undoubtedly, the subjective feelings of practising physicians in this regard constitute a pervasive reason for them to prefer the brand over the generic name.

Yet, it would be a mistake to generalize too far on this point. There are a number of historic – and, indeed, recent – instances where large-scale manufacturers have failed to fulfil the promises implicit in their national stature: moreover, evidence from other fields of manufacture, such as electronics, indicates that smaller firms are well able to establish solid reputations in quality control.

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[1] *Canadian Medical Association Journal*, January 12, 1963, p. 94.

[2] It is not known how this percentage was calculated.

Still another criticism can be directed towards those who would generalize as to the intrinsic merits of brand names over generic names. To say that a physician is powerfully guided by brand-name advertising is to suggest that he has forgotten he was trained as a scientist – trained to be critical, skeptical, and competent in understanding scientific methodology and applying it in clinical situations and investigations.[1] By definition, almost, the scientific practice of medicine should caution the doctor against placing too great a reliance on sharply differentiated products; his training should warn him that the advocates of particular brands are hardly disinterested. Many physicians undoubtedly have such reservations: the fact that they recommend a more widespread use of generic terminology is not to say that they denigrate the brand-name manufacturer or his products.

The appropriate position appears to be one of balance and sophisticated adjudication between the generic and the branded product. "When it comes to buying top-quality drugs," writes one observer, "the things to check are the ability, facility, personnel and conscience of the drug manufacturer. Neither a brand name nor a drug's generic name is the sole reliable guide to quality. The real point is who makes the drug and how it is made – the control system that insures careful and scientific testing for potency and stability."[2]

There may also be practical difficulties in obtaining a particular product under a generic name. Very broadly, drugs may be classified into three groups as regards their availability: (a) drugs available from numerous suppliers, (b) drugs which are the specialties of particular firms, and (c) drugs controlled by patents. With regard to widely available drugs, products under both brand and generic names can be obtained freely. In such instances, however, the advantage of buying the product under its generic name is usually slight. A brand-named product may be sold at a premium price but, simply because there are so many alternatives available, that premium will be small. With regard to patented products and specialties,[3]

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[1] In this context, the following excerpt from a physician-correspondent in the *Canadian Medical Association Journal* of January 12, 1963, p. 99, may be pertinent:
"... One of our shortcomings lies in the uncritical attitude of many doctors with respect to new drugs. Medical students receive little active help or training in how to keep up with new scientific knowledge, and in this field may hear no more from their teachers than blanket condemnation of 'drug companies'. Once qualified to practice, they are all too easily flattered into acceptance of the drug representative's claims and rarely consult a book or journal about the product put forward. Ask the average practising physician what textbook of pharmacology he prefers – – usually he doesn't know what choice is available and if he has one it is probably well out of date. Few doctors buy the American Medical Association annual publication, *"New and Non-Official Drugs"*.

[2] *The Globe and Mail*, Toronto, August 18, 1960, quote C.A. Morrell, Ph.D., Director, Food and Drug Directorate, Department of National Health and Welfare, Ottawa.

[3] Specialty is here used in the sense of a unique combination developed by one firm and not duplicated precisely by any other firm. Patented products are also specialties, but for a different reason, i.e., the patent control prevents other firms from dealing in the particular drug.

the difficulty is to obtain these products under generic names. Some patented drugs are available from importers but, subject to this, both patented drugs and specialties are normally available only from the patent holder or the developer of the specialty. Moreover, in the case of a patented drug, an importer is likely to offer only a standard dosage form, while the patentee is likely to offer a wide variety of dosage forms. Thus, in those cases where it might be expected that maximum savings would be effected by purchasing under the generic name (the brand-named product in this instance is assumed to be high priced) it may not be possible to obtain the desired product under the generic name. It should be noted that brand-named products also invariably carry the generic or chemical name, although the brand name is much more conspicuous on the package.

IMPORTS, EXPORTS, AND IMPORT DUTIES

Canada is the primary source of very little of its own drug needs. Its raw materials, at least, must be imported for further processing. In many cases finished goods are imported for packaging or merely for distribution. Canada obtains its drugs, in finished state or otherwise, from the United States, and from such European countries as Britain, France, and Switzerland.

As shown in Table 5, the value of drugs imported into Canada increased from $22,400,000 in 1953 to $32,600,000 in 1960. However, imported drugs, as a percentage of the total value of medicinals and pharmaceuticals on the Canadian market, decreased from 20.5 per cent in 1953 to 17.0 per cent in 1960.

During the same period, exports reached a maximum in 1958 with $9,600,000 and declined to $5,700,000 in 1960, which is about the same amount as in 1953. The exports represented 6.5 per cent of Canadian drug production in 1953 and only 3.6 per cent in 1960.

TABLE 5

VALUE OF FACTORY SHIPMENTS[a] IMPORTS, EXPORTS, AND NET IMPORTS OF MEDICINAL AND PHARMACEUTICAL PREPARATIONS, AMOUNT AND PERCENTAGE, CANADA, 1953 TO 1960

Year	Value of Factory Shipments		Imports		Total, Factory Shipments and Imports		Exports		Net Imports
	Amount	Per Cent of Total	Amount	Per Cent of Total	Amount	Per Cent	Amount	Per Cent of Factory Shipments	
	$		$		$		$		
1953	87,098	70.5	22,417	20.5	109,515	100.0	5,659	6.5	16,758
1954	90,799	78.4	24,981	21.6	115,780	100.0	5,476	6.0	19,505
1955	100,878	80.4	24,599	19.6	125,477	100.0	4,248	4.2	20,351
1956	110,002	80.8	26,121	19.2	136,123	100.0	5,349	4.9	20,772
1957	126,297	81.6	28,392	18.4	154,689	100.0	6,835	5.4	21,557
1958	139,621	82.7	29,238	17.3	168,859	100.0	9,560	6.8	19,678
1959	154,334	82.6	32,428	17.4	186,762	100.0	6,758	4.4	25,670
1960	159,390	83.0	32,613	17.0	192,003	100.0	5,726	3.6	26,887

(a) Total Canadian shipments including some medicinals made in other industries.

Source: Dominion Bureau of Statistics, *Manufacturers of Pharmaceuticals and Medicines, 1953 to 1960*, Ottawa.

A few drugs may be imported into Canada duty free, but most are subject to duty. Certain drugs are dealt with specifically in the Schedules to the Customs Tariff Act, as for example, in Tariff Item 206a:

Tariff Item	*British Preferential Tariff*	*Most-Favoured Nation Tariff*	*General Tariff*
	%	%	%
206a (1) Sera and antisera, toxoids, viruses, toxins and antitoxins; virus and bacterial vaccines, bacteriophage and bacterial lysates; allergenics, liver extracts, pituitary extracts, epinephrine and its solution, insulin, with or without zinc, globin or protamine; all of the foregoing when imported for parenteral administration in the diagnosis or treatment of diseases of man	Free	Free	Free
(2) Biological products, animal or vegetable, n.o.p., for parenteral administration in the diagnosis or treatment of diseases of animals or poultry, when imported under permit of the Veterinary Director General	Free	Free	Free
(3) Blood plasma or serum of human origin, or fractions thereof, extenders or substitutes therefor; all of the foregoing when imported for parenteral administration	Free	Free	Free
(4) Materials and articles, except alcohol, for the manufacture of the goods specified in (1), (2) and (3) of this item	Free	Free	Free

The great majority of imports come under the general provisions. Single drugs, of a class or kind made in Canada, are dutiable under Tariff Item 711. Single drugs, of a class or kind not made in Canada, are dutiable under Tariff Item 208t. Combinations and mixtures of drugs are dutiable under Tariff Item 220. The Items are as follows:

711 All goods not enumerated in this schedule as subject to any other rate of duty, and not otherwise declared

Tariff Item		*British Preferential Tariff*	*Most Favoured Nation Tariff*	*General Tariff*
		%	%	%
	free of duty, and not being goods the importation whereof is by law prohibited.....	15	25	25
	GATT (1/1/48).....		20	
208t	All chemicals and drugs, n.o.p., of a kind not produced in Canada.....	Free	15	25
220	All medicinal and pharmaceutical preparations, compounded of more than one substance, including patent and proprietary preparations, tinctures, pills, powders, troches, lozenges, filled capsules, tablets, syrups, cordials, bitters, anodynes, tonics, plasters, liniments, salves, ointments, pastes, drops, waters, essences and oils, n.o.p.:-			
	(i) When dry.....	17½	25	25
	GATT (1/1/48).....		20	
	(ii) Liquid, when containing not more than two and one-half per centum of proof spirit.....	20	40	40
	GATT (1/1/48).....		17½	
	GATT (6/6/51).....		20	
	(iii) All others.....	60	60	60
	GATT (6/6/51).....		25	
	Drugs, pill-mass and preparations, not including pills or medicinal plasters, recognized by the British or United States pharmacopoeia, the Canadian Formulary or the French Codex as officinal, shall not be held to be covered by this item.			

In summary, fiscal policy related to tariff structure provides for different tariffs for bulk medicinal and chemical products. Tariffs apply to most imported drugs at rates of 15 to 25 per cent of the "fair market value". Thus, for imported drugs part of their cost on the Canadian market is derived from import duties. The amount of duty paid is approximately $3,000,000 a year.

SALES TAX ON DRUGS AND ITS IMPLICATIONS

Except for five specific drugs,[1] all drug preparations are subject to federal sales tax at the regular rate of 11 per cent. However, sales tax is not paid by hospitals if the drug is not resold for profit. Since profit in such instances cannot be made on the drugs [2] supplied by hospitals to out-patients and in-patients and paid for under the Federal-Provincial Hospital Insurance and Diagnostic Services Program, virtually all drugs sold to hospitals are now free of sales tax.

Although most provinces now levy a direct tax on retail sales, prescribed drugs are exempt from such tax.

It is evident that the federal sales tax of 11 per cent when applied against the selling value of drugs established at manufacturer level increases the price of drugs at retail level. A theoretical example is set out below and data and mark-ups used have been selected for illustration only.

	11% Sales Tax	
	Applied	*Exempt*
	$	$
Selling value of a drug at manufacturer level	1.00	1.00
Federal Sales Tax of 11%	0.11	–
Price at manufacturer level	1.11	1.00
Wholesale mark-up (25%)	0.28	0.25
Price at wholesale level	1.39	1.25
Retail mark-up (66%)	0.92	0.83
Price at retail level	2.31	2.08

It should be observed from the above example that the addition of eleven cents to the price of one dollar established at the manufacturer level has the effect of increasing the retail price of the drug by twenty-three cents. It is estimated that the proceeds from the federal sales tax of 11 per cent on drugs and medicines sold by retail drug stores amount to $15 million.

DISTRIBUTION OF DRUGS

Ethical drugs reach the final consumer, in the main, through retail drugstores and hospitals. In turn, retail pharmacies, hospitals and other institutions rely to a considerable extent upon drug wholesale dealers who normally provide convenient access to a huge variety of items too numerous, and often too expensive, to be carried in inventory.

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[1] Including Cortisone and A.C.T.H.

[2] Virtually all the drugs dispensed by hospitals, the only exclusions being the drugs not approved as insured services in Saskatchewan and British Columbia.

A normal and orderly distribution and marketing of a product under most of the distribution systems include three steps: from manufacturer to wholesaler, from wholesaler to retailer, and from retailer to consumer. All three steps appear to be functionally unavoidable in the drug field, yet, it is interesting to note that drug manufacturers deal, to a considerable extent, directly with retail pharmacies and hospitals and appear, in some instances, to have eliminated the drug wholesalers by undertaking the wholesaling function themselves. This fact appears evident from the findings of a survey, made by the Canadian Pharmaceutical Manufacturers Association, which showed that wholesalers are carrying 38 per cent of the net sales [2] of ethical drugs of 35 major drug manufacturers.

The following tabulation shows the sales distribution in 1960 of these 35 drug manufacturers:

	Amount	*Percentage Distribution*
	$	%
Sales to General Hospitals and Institutions	19,789,000	19.3
Sales to Druggists (including drug chains and dispensing physicians)	37,145,000	36.2
Sales to Wholesalers	38,655,000	37.6
Sales to Governments	3,958,000	3.9
Export Sales	3,086,000	3.0
Total Sales [3] of Human Pharmaceuticals	$102,633,000	100.0

THE WHOLESALE DRUG INDUSTRY

The main function of drug wholesalers is to satisfy the needs of retail drugstores, hospitals, and practising physicians. They carry up to 8,000 pharmaceutical products, first-aid products, fine chemicals, essential oils, elastic support products, appliances, prescription glassware, toilet articles and cosmetics and sundries, all of which may create an inventory of some 27,000 items.

In 1957, nearly 96 per cent [4] of total sales of the wholesale drug agents was made to retailers, 2.5 per cent to hospitals and institutions, 1.5 per cent to other wholesalers and 0.2 per cent to others.

Although the D.B.S. 1951 Census [5] of Canada reported that there were 141 wholesalers of drugs and drug sundries, it is believed that the actual number of wholesalers who in 1961 carried a complete stock of pharmaceuticals did not exceed 42.

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[1] "Answers to Specific Questions Received from the Royal Commission on Health Services and Provided by the Canadian Pharmaceutical Manufacturers Association, April 30, 1962."

[2] Total net sales of ethical drugs made by these 35 manufacturers represent 85 per cent of all ethical drugs sold at manufacturer's level.

[3] Excluding sales to other manufacturers and importers.

[4] Dominion Bureau of Statistics, *Operating Results of Drug Manufacturers*, 1957.

[5] Information not yet available from the 1961 Census.

The operating results of drug wholesalers have been reported [1] by D.B.S. for the years 1951, 1953, 1955 and 1957. [2] The figures were based on a sample of drug wholesalers performing the full selling, warehousing and delivery functions, thus excluding agents, brokers, drop shippers, and other specialized types of wholesale distributors. During the years 1953, 1955 and 1957, the gross profit was 12.4 per cent, 12.7 per cent, and 11.8 per cent respectively, and the net profits before income tax deductions were 2.81 per cent, 2.97 per cent, and 2.01 per cent respectively.

THE RETAIL DRUGSTORE

There have been notable increases both in the number of drugstores operating in Canada and in the value of sales by drugstores over the past ten years. Probably, as has been suggested by the Canadian Pharmaceutical Association, these increases reflect the growth in population and more important, the increasing use of drugs to treat physical and emotional disorders.

As shown in Table 6 the increase in the number of drugstores from 1951 to 1960 was 19.1 per cent. Over the same period, however, the increase in population per drugstore was only 6.0 per cent.

TABLE 6

NUMBER AND POPULATION PER RETAIL DRUGSTORE IN CANADA, 1951 TO 1960

Year	Number of Retail Drugstores	Population Per Retail Drugstore
1951	4,098	3,418
1952	4,094	3,532
1953	4,465	3,325
1954	4,457	3,430
1955	4,638	3,385
1956	4,663	3,449
1957	4,733	3,505
1958	4,773	3,572
1959	4,801	3,633
1960	4,915	3,624

Source: Division of Narcotic Control, Department of National Health and Welfaire, Dominion Bureau of Statistics, *1951 Census*, Ottawa: Queen's Printer and Dominion Bureau of Statistics, Population of Canada as at June 1, of each year.

[1] Dominion Bureau of Statistics, *Operating Results of Drug Wholesalers*, 1953, 1955, and 1957.

[2] Latest available information.

Estimated sales [1] by drugstores [2] for the years 1951 to 1960 are given in Table 7. These figures indicate that retail sales of drugstores increased by 79.5 per cent from 1951 to 1960. In addition Table 7 shows that, during the whole period, the proportion of total sales claimed by chain drugstores was about 13 per cent.

TABLE 7

ESTIMATED RETAIL TRADE OF DRUGSTORES, IN CANADA, 1951 TO 1960

Year	Independent Drugstores	Chain Drugstores	Total
	$000	$000	$000
1951	200,795	31,019	231,816
1952	233,563	33,504	267,067
1953	247,414	34,805	282,219
1954	245,901	35,908	281,810
1955	263,681	36,660	300,341
1956	287,730	41,299	329,028
1957	312,143	45,437	357,579
1958	332,819	49,912	382,731
1959	351,004	53,264	404,268
1960	360,918	55,130	416,048

Source: Dominion Bureau of Statistics, *Retail Trade, 1951 to 1960*, Ottawa.

Most drugstores sell commodities other than prescription drugs. Such commodities include candy, paper goods, cigars, cigarettes and tobacco, toilet preparations and cosmetics, cameras and photographic equipment, and miscellaneous other merchandise. Drugstores with soda fountains, representing about 15 per cent of all drugstores, also provide meals and lunches.

There are indications that the proportion of total sales of drugstores represented by prescriptions increased through the 1951–1961 period. The following tabulation gives an estimate[3] of the proportion of total sales which are

[1] See Chapter III, "Expenditure on Drugs in Canada" for a discussion on consumer expenditures on prescribed and non-prescribed drugs sold by retail drugstores.

[2] Drugstores with and without soda fountains.

[3] The Canadian Pharmaceutical Association, Annual Surveys by Professor H.J. Fuller, Numbers 10 to 20, inclusive. *Canadian Pharmaceutical Journal. Note:* The sample represented, in earlier years, approximately 6 per cent of all Canadian drugstores and this increased to about 12 per cent in 1961.

prescription sales. In 1951, 15.1 per cent of total sales were in the form of prescriptions, and this percentage increased to 26.0 per cent in 1961.

1951 – 15.1%	1955 – 20.0%	1959 – 26.0%
1952 – 18.2%	1956 – 22.1%	1960 – 25.0%
1953 – 16.3%	1957 – 23.7%	1961 – 26.0%
1954 – 19.8%	1958 – 23.6%	

Financial Operating Results of Retail Drugstores

Table 8 gives selected data on the financial operating results of retail drugstores in Canada from 1951 to 1961. They were reported in the Annual Surveys made by Professor H.J. Fuller and published annually in the Canadian Pharmaceutical Journal. It is of interest to note that, on the average, the mark-up of retail drugstores has remained relatively stable during the period ranging from 30 per cent to 34 per cent. Notwithstanding, the total average income, including the proprietor's or manager's salary, other income and net operating profit, increased from $7,880 in 1951 to $14,477 in 1959 with a slight decrease in 1961.

The Cost of Prescription Services of Retail Drugstores

It is reported in the Annual Surveys published in the Canadian Pharmaceutical Journal that an 87 per cent increase in the average prescription price was experienced in Canada from 1951 to 1961, that is, from $1.68 in 1951 to $3.14 in 1961. It is also reported that the average number of prescriptions dispensed per capita by retail drugstores increased from 2.21 in 1951 to 2.40 in 1960 with a decrease to 2.23 in 1961.

Prescription Pricing Practices of Retail Drugstores

Prescription pricing methods used by retail drugstores vary across Canada. There are many "guides" or "schedules" outlining suggested methods or detailing agreements, such as those entered into with the federal Department of Veterans Affairs and the health departments in the provinces of Saskatchewan, British Columbia, and Manitoba. Although there is no uniformity in prescription pricing, guides of one kind or another are generally used by pharmacists. It is contended by the Canadian Pharmaceutical Association that "prescription pricing guides in use in provinces, districts and communities across Canada are truly guides only and no statutory or otherwise disciplinary power is exercised by any association to obtain compliance with any one of them, either in whole or in part".[1]

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[1] "Submission to the Royal Commission on Health Services by the Canadian Pharmaceutical Association", Toronto, May 1962, p. 116.

TABLE 8

FINANCIAL OPERATING RESULTS OF PHARMACIES REPORTING PRESCRIPTION SALES IN CANADA, 1951, 1955, 1957, 1959 AND 1961

	1951(a)	1955	1957	1959	1961
No. of Pharmacies Reporting	149	244	293	315	619
Sales	$60,862 – 100.0%	$80,840 – 100.0%	$94,865 – 100.0%	$106,552 – 100.0%	$106,312 – 100.0%
Cost of Goods Sold	42,664 – 70.1	54,956 – 68.0	63,560 – 67.0	70,751 – 66.4	70,379 – 66.2
Gross Margin	18,198 – 29.9	25,884 – 32.0	31,305 – 33.0	35,801 – 33.6	35,993 – 33.8
EXPENSES					
Proprietor's or Manager's Salary	3,652 – 6.0	6,467 – 8.0	7,400 – 7.8	8,631 – 8.1	8,930 – 8.4
Employees' Wages	5,173 – 8.5	8,375 – 10.4	9,866 – 10.4	10,975 – 10.3	10,950 – 10.3
Rent	1,339 – 2.2	2,126 – 2.6	2,277 – 2.4	2,664 – 2.5	2,764 – 2.6
Advertising	609 – 1.0	922 – 1.1	1,044 – 1.1	1,172 – 1.1	1,170 – 1.1
Delivery	304 – 0.5	525 – 0.7	664 – 0.7	746 – 0.7	851 – 0.8
Other Expenses	3,347 – 5.5	4,519 – 5.6	5,406 – 5.7	6,392 – 6.0	6,272 – 5.9
Total Expenses	14,424 – 23.7	22,934 – 28.4	26,657 – 28.1	30,580 – 28.7	30,937 – 29.1
Net Operating Profit	3,774 – 6.2	2,950 – 3.6	4,648 – 4.9	5,221 – 4.9	4,996 – 4.7
Other Income	454	497	526	625	480
Proprietor's Salary	3,652	6,467	7,400	8,631	8,930
Total Income	7,880	9,914	12,574	14,477	14,406

(a) Averages refer to all pharmacies and not only to those pharmacies reporting prescription sales.

Source: Canadian Pharmaceutical Journal, Annual Surveys, Numbers 10, 12, 14, 16, 18 and 20.

Generally speaking, most current pricing methods involve a 60 per cent breakdown formula based on list prices of original package quantities plus a dispensing fee of 75 cents. The "Green Book"[1] reports the following information which seems pertinent as regards prescription pricing methods used by retail drugstores in Canada.

"(1) It is the normal practice for dispensing pharmacists to include in the prices charged for prescriptions a fee covering their professional services. This fee is referred to as a prescription, dispensing or professional fee. The fee charged varies and is sometimes not included where the list price of the drug sold is above a certain amount.

"(2) Guides to or schedules of suggested prices to be charges for prescriptions are commonly used. Normally, these are relatively simple.

"(3) Although they differ in detail, the guides or schedules are similar principle and two sets of prices, one applicable where a prepared dosage form is sold, the other applicable where the pharmacist actually compounds the prescription, are set out.

"(4) Unquestionably, these guides are a convenience to the pharmacist, especially in pricing prescriptions which call for quantities which require breaking the manufacturer's standard-sized package and for prescriptions which must be compounded by the pharmacist.

"(5) There is no clear evidence of formal agreement by pharmacists to adhere to these guides. On the other hand, they are, in fact, widely followed. Moreover, the fact that these guides are in some cases prepared by a committee of a professional association and published by the association probably tends to further their acceptance by the druggists to whom they are supplied.

"(6) There is a strong and frequently expressed opinion among druggists that prescription prices should not be the subject of the price competition. Such competition is regarded as demeaning to the status of pharmacists as professional persons and not mere merchants.

"(7) In the result, it is clear that prices charged for prescriptions are substantially affected by the widespread use of guides or schedules of suggested prescription prices. These guides have the general effect of producing uniform prices for comparable prescriptions in any particular area."

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[1] The "Green Book", pp. 104—105.

PROVISION OF DRUGS IN CANADIAN HOSPITALS[1]

The federal Hospital Insurance and Diagnostic Services Act states that insured in-patient services shall include "drugs, biologicals and related preparations as provided in an agreement when administered in the hospital". Agreements between the federal government and individual provinces and territories show that drugs are specifically included as insured services.

Generally speaking, all provinces and territories provide drugs, biologicals, and related preparations, that in the judgment of the governing authority and the medical staff are required by an insured patient while in a hospital, in accordance with accepted practice and sound teaching.

All provinces and territories except Alberta specifically exclude the provision of proprietary and patent medicines as insured services. In addition, British Columbia excludes cortisone and A.C.T.H. Among the major exclusions in Saskatchewan are a certain number of hormones and related preparations, some vitamins and vitamin combinations, amino acids, and synthetic oral forms of penicillin, penicillin powder for insufflation purposes, penicillin lozenges and other forms of penicillin for topical use, as well as antibiotics other than streptomycin and penicillin for systemic use.

There is much greater variation among provinces in the drugs provided on an out-patient basis. While Newfoundland and Alberta do not provide any drugs as an insured out-patient service, all other provinces and the two territories provide drugs to out-patients as part of emergency diagnosis and treatment following injury or accident. A certain number of provinces also provide drugs when needed in minor surgical procedures.

The range of drugs supplied in conjunction with the provision of insured services to out-patients is the same range of drugs supplied to the comparably assured in-patients. Prince Edward Island provides drugs when used for emergency diagnosis and treatment and administered in a hospital. Nova Scotia supplies drugs when used for emergency diagnosis and treatment within 48 hours after an accident and in connection with certain minor medical and surgical procedures. New Brunswick provides drugs for the diagnosis and treatment of an injury received as a result of an accident and for the necessary follow-up care. Quebec and the Northwest Territories supply drugs for emergency diagnosis and treatment within 24 hours of an accident which period may be extended if the person was unable to obtain treatment within that time. Quebec also provides drugs in connection with some minor surgical procedures. Ontario supplies drugs for emergency diagnosis and treatment within 24 hours after an accident, on the necessary follow-up visits, and for medical and surgical procedures for which a hospital has out-patient facilities, and which are authorized by the hospital board of directors. Manitoba provides drugs for emergency diagnosis and treatment

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[1] See Chapter III, "Expenditure on Drugs in Canada" for a discussion on hospital expenditures on drugs.

within 24 hours after an accident and for minor surgical procedures designated by the Minister. Saskatchewan includes drugs in the insured emergency services provided by a hospital as a result of injury and the subsequent changes or removals of casts, dressings, or sutures, and as part of the services involved in obtaining human tissue specimens. In the agreement between the Federal Government and the Province of British Columbia no out-patient services are listed, although emergency services and minor surgical procedures are included in the provincial insurance program; it is assumed that drug benefits are included with these services.

It is believed that necessary drugs are provided in mental and tuberculosis hospitals almost free of charge to patients. In 1961, only 4.7 per cent of all funds received by mental hospitals in Canada came from paying individuals, the corresponding percentage for tuberculosis sanatoria was 0.6 per cent.

Factors Affecting Prices of Drugs Paid by Hospital Pharmacies

It is generally established that the costs of purchasing drugs by hospitals are smaller than for proprietors of retail drugstores. There are many reasons: (a) hospital costs do not include the 11 per cent federal sales tax applied to drugs; (b) hospitals usually buy in larger quantities than do the retail drugstores with resultant larger discounts and special quantity prices; (c) standard dosage forms are commonly used by hospitals and a greater variety of dosage forms are available from the retail drugstore; (d) hospital purchases are often made by tender, a practice seldom feasible for independent retail drugstores; (e) a formulary system in operation in many large hospitals enables the hospital pharmacy to reduce its number of brands (or non-brands) and dosage forms.

A formulary system provides a form of authorization to the hospital pharmacist to dispense, regardless of the brand name prescribed, a product by brand name or other designation as set out by the Pharmacy and Therapeutic Committee of a hospital, and agreed to by the medical staff. From the manufacturer's point of view, the formula system tends substantially to reduce, or indeed to eliminate, in hospitals and government institutions the normal protection afforded his brand name. With sales made to hospitals under the tender system and the elimination of brand name protection, the manufacturer is forced into a sharply competitive pricing situation should he wish to benefit from the presumed prestige and promotional value of having his particular brand available to physicians in hospitals.

DISPENSING PHYSICIANS

In every province, physicians may legally dispense the drugs which are required by their own patients. Physicians may also, under certain conditions, register under the various provincial Pharmacy Acts to conduct a pharmacy practice with services available to persons other than their own patients. This is

particularly the case in remote areas where usual drugstore services are not available. It is not known to what extent drugs are directly provided by physicians, but a provisional estimate would be that about $15 million worth of drugs are dispensed in this way. The dispensing physician need not necessarily be conducting a pharmacy practice.

GOVERNMENT AGENCIES

Government agencies that actually dispense drugs are:

Federal

Department of National Defence; Department of Veterans Affairs; Department of National Health and Welfare (Indian and Northern Health Services).

Members of the Armed Forces, as part of their entitlement upon enlistment, are granted health care services for themselves and their dependants. Drugs, according to a limited inventory list of items, are available from the hospital pharmacy of the military unit.

Department of Veterans Affairs medical services, extended to war veterans, are provided for within hospitals and to ambulatory patients. At the close of World War II, the Department entered into agreements with practitioners in the health professions, to provide convenient, free choice-of-practitioner service to its beneficiaries. Pharmaceutical services were paid for in accordance with price schedules in most common usage in each province. The majority of drugs were, however, made available through centralized sources such as D.V.A. hospitals and these sources were gradually expanded. Today, the same basic distribution system prevails with the Department making it increasingly necessary for its beneficiaries to undertake the various procedures necessary to obtain their prescribed drugs from regional sources, while asking community pharmacies to stand ever-prepared "to provide emergency and narcotic prescriptions" and, just recently, "controlled drugs".

The Indian and Northern Health Services Branch of the Department of National Health and Welfare provides certain health services in accordance with long-standing treaty arrangements. Such services, while not entering into the realm of statutory obligations, are also made available to indigent Indians who no longer reside on reserved lands. These latter are adjudicated by regional officers who have made provision for local services. Recently, the federal authorities have sought to establish common fee-for-service levels and have indicated their interest in a national prescription pricing guide to be used in paying for pharmaceutical services. Within the retail industry itself, the Canadian Pharmaceutical Association guides and co-ordinates such arrangements, while final contractual agreements of this nature are the prerogative of the provincial associations.

Provincial

In some provinces, there exist, to a varying extent, government dispensaries and/or central sources of certain drugs according to very limited inventory lists to supply prescriptions required by indigents and welfare patients,[1] particularly as the drugs may be required for certain chronic conditions.

Municipal

Area or community health offices provide immunization services, including vaccines and anti-toxins, to those who wish to avail themselves of these products. Some school boards provide the supervisory and examination services of dentists and nurses free of charge, and there are instances where boards sell specially purchased vitamin preparations to students.

INDUSTRIAL DISPENSARIES

Industrial dispensaries, in addition to factory first-aid stations, are quite numerous. These make certain drugs available to meet employees' on-the-job needs and, occasionally, those required for prophylaxis programs. Such are provided free or at subsidized charges.

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[1] See Chapter IV, "Pharmaceutical Benefits for Recipients of Organized Public Assistance Programs in Canada".

CHAPTER III

EXPENDITURE ON DRUGS IN CANADA

Canadians collectively spent an estimated $364 million during 1961 on drugs supplied by drugstores, hospitals, physicians, and non-pharmacy retail outlets.[1] The figure was $201 million in 1953 and the increase in expenditures amounted, therefore, to 81 per cent in the eight-year period. As Table 9 shows, the increase during the first six years, from 1953 to 1959, was much more rapid than between 1959 and 1961.

For each person in the population, drug purchases amounted to $13.57 in 1953 and to $19.95, or 47 per cent more, in 1961. Between 1959 and 1960 the rise in population was more rapid than the increase in drug purchases, so that the per capita figure actually fell by 15 cents, and in 1961 was only 9 cents above that of 1959.

Hospital purchases of drugs[2] more than doubled between 1953 and 1961. The $32.5 million total in 1961 represented 9 per cent of the total spent in Canada on drugs, as against 7 per cent eight years before.

Consumer purchases of drugs comprising all drugs other than those dispensed by hospitals (Table 9) increased more slowly than did hospital purchases, rising from $187.1 million in 1953 to $331.3 million in 1961, or by 77 per cent. For each person in Canada these purchases (the amount comprises all drugs supplied by retail pharmacies, non-pharmacy outlets and drugs dispensed by physicians) totalled $12.60 in 1953 and $18.17 or 44 per cent more in 1961.

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[1] Each instance of supplying a drug to a patient by a drugstore, a hospital, or a physician, is further distinguished by whether or not it is authorized by a prescription (prescribed drugs cannot be filled by non-pharmacy retail outlets). It should be remembered that although there are some drugs which are never legally sold except on a prescription, other drugs require a prescription in some cases but not in others (e.g., codeine tablets, of which the stronger varieties usually do, and the weaker do not, require a prescription), and all drugs may at least occasionally be sold on a prescription. Consequently the term "prescribed drugs" does not represent a definable group of substances, but rather a class of purchases, namely those ordered by prescription.

[2] Figures on drug expenditures by hospitals are only approximate. Most of the statistics combine medical and surgical equipment and supplies with drugs. Available data suggest that 57 per cent is a reasonable estimate of the proportion of this total attributable to drugs. Furthermore, there are no statistics, even on the basis of the equipment-supplies-and-drugs in combination, for mental hospitals' drug expenses prior to 1959, and arbitrary estimation was used; finally, the mental hospitals in Quebec did not report to Dominion Bureau of Statistics in 1959 or 1961.

TABLE 9

ESTIMATED RETAIL SALES OF PRESCRIBED[a] AND OTHER DRUGS AND EXPENDITURES ON DRUGS BY HOSPITALS, AMOUNT AND PER CAPITA, CANADA, 1953–1961

Year	Amount					Per Capita[c]		
	Retail Sales of Drugs			Expenditures by Hospitals for Drugs	Total Retail and Hospital Expenditures	Total Retail Sales	Hospital Expenditures	Total Retail Sales and Hospital Expenditures
	Prescribed[a]	Other Drugs[b]	Total					
	$000	$000	$000	$000	$000	$	$	$
1953	48,800	138,300	187,100	14,300	201,400	12.60	.96	13.57
1954	52,100	146,000	198,100	16,100	214,200	12.96	1.05	14.01
1955	59,500	159,900	219,400	17,600	237,000	13.98	1.12	15.10
1956	71,800	164,000	235,800	19,700	255,500	14.66	1.23	15.89
1957	84,500	181,600	266,100	22,500	288,600	16.02	1.35	17.38
1958	90,300	193,600	283,900	25,500	309,400	16.62	1.49	18.11
1959	106,500	212,300	318,800	28,400	347,200	18.23	1.62	19.86
1960	107,300[d]	213,800	321,100	31,200	352,300	17.97	1.75	19.71
1961	111,100	220,200	331,300	32,500	363,800	18.17	1.78	19.95

(a) Sold in retail drugstores (pharmacies) only.

(b) Comprises all retail sales of drugs other than by prescription, whether in drugstores or elsewhere, and also all drugs dispensed and sold by physicians, whether on prescription or otherwise.

(c) Items may not add to total, due to rounding.

(d) Interpolated.

Source: Tables 10 and 11; Dominion Bureau of Statistics, *Intercensal Estimates of Population; The Medicinal and Pharmaceutical Preparations Industry, 1953–1959; Manufacturers of Pharmaceuticals and Medicines, 1960; The Feeds Industry, 1953–1960; Trade of Canada, Volume 3, 1953–1959;* and unpublished data, Research and Statistics Division, Dept. of National Health and Welfare.

Of the $331.3 million in aggregate purchases from the three retail outlets in 1961, about one-third or $111.1 million was supplied by retail pharmacies on prescription.[1] It is not known with precision how much of the remaining $220.2 million represented purchases of non-prescribed drugs from retail pharmacies and non-pharmacy outlets, and how much represented the direct dispensing of drugs by physicians, but the physicians' dispensings may be estimated to have been of the order of $15 million.

The expenditure of $111.1 million by consumers made directly, or on their behalf, in 1961 for prescribed drugs supplied by retail drugstores was far higher than the $49 million purchased in 1953. In per capita terms the figures represented an outlay of $6.09 in 1961 compared with $3.29 eight years earlier. Thus, each Canadian in 1961 spent nearly twice as much in retail drugstores on prescribed drugs as he spent in 1953.

Payments for prescribed drugs sold by retail drugstores made up about seven per cent (Table 10) of total expenditures on personal health care, as they have for many years.

TABLE 10

ESTIMATED PRESCRIBED DRUG SALES BY RETAIL DRUGSTORES: AMOUNT, PERCENTAGE OF PERSONAL HEALTH CARE EXPENDITURES, PER CAPITA SALES, AND THEIR PERCENTAGE OF THE GROSS NATIONAL PRODUCT, 1953–1961

Year	Total Personal Health Care[a] Expenditures	Prescribed-drug Sales by Retail Drugstores			
		Amount	Percentage of Personal Health Care Expenditures	Per Capita	Percentage of Gross National Product
	$000	$000	%	$	%
1953	734,900	48,800	6.6	3.29	0.20
1954	803,900	52,100	6.5	3.41	0.21
1955	869,600	59,500	6.8	3.79	0.22
1956	988,200	71,800	7.3	4.46	0.23
1957	1,097,700	84,500	7.7	5.09	0.26
1958	1,209,000	90,300	7.5	5.29	0.27
1959	1,362,500	106,500	7.8	6.09	0.30
1960	1,505,900	107,300[b]	7.1	6.00	0.30
1961	1,651,900	111,100	6.7	6.09	0.30

(a) Including hospital services, physicians' services, prescribed drugs, dentists' services, and other.

(b) Interpolated.

Source: Department of National Health and Welfare, *Expenditures on Personal Health Care in Canada, 1953–1961*, Health Care Series, Memorandum No. 16, Ottawa, 1962 (in preparation).

[1] Estimated sales of prescribed drugs by retail drugstores have been based on data from two unrelated sources. The Dominion Bureau of Statistics conducts annual surveys of retail drugstores in Canada on a stratified-sample basis, and from these surveys it calculates the total sales of the retail drugstores (no distinction is made between prescribed drugs, other drugs, and other items). The Canadian Pharmaceutical Association collects data annually from retail drugstores in Canada through a voluntary questionnaire and from the published results it is possible to determine the percentage that prescribed drug sales are of all sales in the responding drugstores. Figures from these two sources have been multiplied together to produce the amount of sales of prescribed drugs by retail drugstores.

As a percentage of the gross national product, expenditures on prescribed drugs indicated a steady annual increase, from 0.20 per cent in 1953 to 0.30 per cent in 1959. Their percentage of the GNP remained unchanged in 1960 and 1961.

The foregoing data pertain to purchases of prescribed drugs from retail drugstores. If these are combined with estimated expenditures for drugs supplied by hospitals, thereby coming close[1] to the total prescribed-drug usage in Canada, the aggregate expenditure, as shown in Table 11, rises from $63 million in 1953 to $144 million in 1961, and the per capita ratio, from $4.25 to $7.87 over the same interval.

The proportion of prescribed-drug usage to usage of all drugs in Canada, in terms of the measures described in the foregoing, rose steadily from 31.3 per cent in 1953 to 39.5 per cent in 1961.

TABLE 11

ESTIMATED SALES OF PRESCRIBED DRUGS BY RETAIL DRUGSTORES AND EXPENDITURES BY HOSPITALS ON DRUGS, CANADA, 1953–1961

Year	Prescribed Drug Sales by Retail Drugstores	Expenditures by Hospitals on Drugs[a]				Total		
		Active-Treatment Hospitals[b]	Tuberculosis	Mental	Federal[c]	All Hospitals	Amount	Per Capita
	$000	$000	$000	$000	$000	$000	$000	$
1953	48,800	11,700	500	1,160[d]	905	14,265	63,065	4.25
1954	52,100	13,300	500	1,280[d]	1,055	16,135	68,235	4.46
1955	59,500	14,600	550	1,410[d]	1,075	17,635	77,135	4.91
1956	71,800	16,500	565	1,550[d]	1,050	19,665	91,465	5.69
1957	84,500	19,000	560	1,700[d]	1,225	22,485	106,985	6.44
1958	90,300	21,700	520	1,870[d]	1,395	25,485	115,785	6.78
1959	106,500	24,300	470	2,060[e]	1,565	28,395	134,895	7.72
1960	107,300[f]	26,700	610	2,250	1,660	31,220	138,520	7.75
1961	111,100	27,850	525	2,410[e]	1,730	32,515	143,615	7.87

(a) Estimated (other than 1961 active-treatment) at 57 per cent of total for drugs and medical, surgical and sterile supplies.

(b) Comprise public and private acute, chronic, and convalescent hospitals.

(c) Basic data adjusted from fiscal-year to calendar-year basis; comprise federal active treatment, tuberculosis, and mental hospitals.

(d) Basic data estimated in entirety.

(e) Basic data include estimate for Quebec, which reported no data in 1959 or 1961.

(f) Interpolated.

Source: Department of National Health and Welfare, *Expenditures on Personal Health Care in Canada, 1953 to 1961*, 1962; Dominion Bureau of Statistics: *Hospital Statistics, 1953 to 1959; Tuberculosis Statistics, 1953; Tuberculosis Statistics Financial Supplement, 1954 to 1960; Mental Health Statistics Financial Supplement, 1953 to 1960; Population of Canada;* Department of Finance, *Public Accounts, 1952–53 to 1960–61;* and unpublished data, Research and Statistics Division, Department of National Health and Welfare.

[1] Subject to two limitations: this approximation will include any drugs dispensed by hospitals and will exclude prescribed drugs dispensed by doctors.

CHAPTER IV

PHARMACEUTICAL BENEFITS FOR RECIPIENTS OF ORGANIZED PUBLIC ASSISTANCE PROGRAMS IN CANADA

NEWFOUNDLAND

Coverage

No special provisions for making drugs available to public-assistance recipients as opposed to other persons exist in Newfoundland apart from the waiving of charges under certain programs and circumstances described below. Drugs and dressings are issued to indigent persons on both a casual basis and a regular monthly basis. The drugs are available at no charge when patients have been cleared through welfare officers on a means test basis.

The number of indigents (defined as persons receiving continuing public assistance support including social aid) has been estimated, for 1960, at 36,000 persons or 8 per cent of the population.

The province operates two public medical care programs for the general population. Most indigents are covered under these programs either because of the definition of the program or because premiums and other charges are waived or are paid on their behalf.

The Cottage Hospital Medical Plan in 1960 covered about 200,000 persons or 45 per cent of the total population. The beneficiaries are the residents of the Cottage Hospital Districts. Coverage is normally obtained through premium payments but failure to pay does not disqualify persons for benefits.

The Children's Health Service covers all children under 16 years of age (comprising about 40 per cent of the total population) regardless of means.

Benefits

The Cottage Hospital Medical Plan provides for medical and surgical services in hospitals within the designated areas, home calls by physicians, and referrals to specialists elsewhere if medically required. In-patient drugs are provided. Self-

supporting patients are expected to pay small charges for out-patient drugs and essential drugs required in the course of a visit and for maternity care and dental extractions, but these charges are waived if the patient is indigent.

The Children's Health Service provides medical and surgical care in hospital and out-patient X-ray and laboratory tests and dressings for all children under 16 years. The health department, in addition, arranges for free distribution of milk and orange juice to children in economically depressed areas of the province.

Doctor's fees in connection with out-patient diagnostic services are not provided for, except for children eligible under the Cottage Hospital Medical Plan.

Children of indigent parents are beneficiaries for all the above-mentioned services and, in addition, doctors' fees are paid with respect to out-patient services. Moreover, the age limit can be waived for these children, and there is provision for payment for the cost of transportation that is medically necessary.

Drugs used in connection with hospitalization are included for all residents under the federal-provincial hospital insurance program.

Administrative Arrangements

Both programs are administered through the provincial health department. Provision of drugs for indigents in the larger urban centres is, like medical care services, at local discretion.

Basis of Payment

The Cottage Hospital Medical Plan benefits are available to self-supporting residents of the Cottage Hospital Districts on payment of premiums. (The premiums cover only a portion of the actual cost of the services provided.) As noted, eligibility is not, however, contingent upon payment of premiums if the resident is unable to pay.

The Children's Health Service is available to all residents within the age limit. Additional charges for some items, ordinarily requested at time of service, are waived if the patient is unable to pay.

The funds required come from general revenues of the province, apart from revenue obtained through premiums of the Cottage Medical Care Plan.

Financial Experience

The public accounts of Newfoundland show the following expenditures for drugs, supplies, and appliances for non-paying patients (non-institutional) for the years 1952–53 to 1960–61: 1952–53, $24,692; 1953–54, $15,504; 1954–55, $24,423; 1955–56, $34,807; 1956–57, $40,926; 1957–58, $56,249; 1958–59, $70,225; 1959–60, $96,090; 1960–61, $121,304.

PRINCE EDWARD ISLAND

Indigents other than those in institutions where the province pays for care, such as the tuberculosis sanatorium and the rehabilitation centre, receive care at local discretion. Children under 16 years of age who would benefit from treatment in the rehabilitation centre, regardless of whether their condition is attributable to poliomyelitis or tuberculosis, are eligible for treatment and associated pharmaceutical items, without charge, in the centre, if their family is indigent.

The number of indigents under continuing public assistance programs was estimated at 3,700 in 1960.

In general, it may be said that the province's reimbursement of municipalities for social assistance costs may include funds for medical care and pharmaceutical items for local indigents.

In-patient drugs for indigents occupying hospital beds are covered under the general provisions of the hospital insurance program.

NOVA SCOTIA

Coverage

Medical care coverage by the provincial program includes the following groups:

(1) Mothers' allowance recipients and their dependents.

(2) Recipients of blindness allowance.

(3) Transients or medically indigent persons without municipal residence.

All others receive, at local discretion, care financed by their municipality of residence. Special funds are available, however, to finance the health needs of wards of Children's Aid Societies.

The tabulation below shows the number covered, for selected fiscal years:

	1956–57	*1957–58*	*1958–59*	*1959–60*
Mothers' Allowance and dependents	8,308	8,259	8,572	8,745
Blindness Allowance.....	714	723	789	780
Both Categories	9,022	8,982	9,361	9,525

Benefits

Medical care, from the doctor of the patient's choice, is provided in home, office, and hospital, and includes the provision of such drugs and dressings as are prescribed by the doctor, and which would be used in the course of his visit. Emergency tooth extractions by doctors are available, and so is a limited optical service. Maximum dollar amounts are set for payments to physicians serving patients in hospital. On a means test, the provincial authority provides insulin

and antidiabetic drugs and test materials to persons with diabetes mellitus. This is similar to the Alberta program.

Free penicillin is made available for treatment of venereal diseases, and drugs are provided without charge for treatment of tuberculosis both in and out of hospital. Certain life-saving medications are provided but no pattern or organized program is followed.

Administrative Arrangements

The provincial authority makes flat payments per beneficiary ($1.30 per month at present) to a fund administered by Maritime Medical Care, a voluntary doctor-sponsored insurance plan.

Basis of Payment and Financial Experience

Doctors' accounts are submitted to the voluntary agency and are paid on a prorated basis from the amounts available in the funds.

The amounts paid to doctors include unknown outlays for drugs and dressings. The expenditures can be itemized as follows, for selected calendar years.

	1956	*1957*	*1958*	*1959*
	$	$	$	$
Payments to doctors .	78,316	71,494	84,510	96,900
Outstanding accounts	23,150	17,866	17,143	20,247
Administration.....	6,264	6,715	7,671	8,780
All expenditures	107,730	96,075	109,324	125,927

NEW BRUNSWICK

New Brunswick does not have a provincial medical care plan for persons in need.

For many years necessary medical, dental, pharmaceutical and associated health care services have been available at local discretion for all indigent residents, mainly through private arrangements between the doctor or person providing service and the municipality of residence.

The estimated numbers of indigent persons in 1959 were 17,000 under old age security provisions, 5,790 under old age assistance, 720 blind persons, 1,760 disabled persons, and 2,213 families receiving mothers' allowance, for a total of 25,268 individuals and 2,213 families. No data are available on the number receiving social assistance.

Expenditures by cities, towns, and municipalities for such care totalled approximately $63,500 in 1958 and $103,000 in 1959.

Until July 1, 1959, hospital care was provided for indigent municipal residents on a similar basis. Payment of hospital bills on behalf of indigents was the usual method of reimbursing hospitals. Direct grants were sometimes made. Non-resident indigents could under emergency circumstances be hospitalized at municipal discretion. Expenditures by municipalities for hospital care of indigents totalled $1,338,000 in 1957, $1,620,000 in 1958, and $1,382,000 in 1959. Additional assistance to hospitals was provided by the provincial government in the form of direct per diem grants. In these earlier methods of financing care for indigents, hospitals were expected to provide whatever medical care and pharmaceutical services were needed. With the advent of the federal-provincial hospital insurance program, indigents occupying hospital beds were entitled to the same range of in-patient drug benefits as other patients.

QUEBEC

In the Province of Quebec, medical and other health services are available to indigent persons through a variety of dispensaries and clinics. A nominal charge may be made but, in general, costs of health care and pharmaceutical items are borne by the agency. The agency may or may not be supported with funds provided by a public authority. In all areas without such facilities, service is given by local pharmacists or doctors through private arrangement with the patient or his municipality of residence.

Hospital care, including the associated provision of drugs to patients, is provided to all indigent persons residing in the province. The type of in-patient care does not differ from that available for any other patients under this program.

ONTARIO

Coverage

Coverage by the Ontario Medical Welfare Plan is extended to recipients of old age security pension with supplementary allowance, old age assistance, blindness allowance, mothers' allowance, disabled persons' allowance, and unemployment relief. In addition, the incapacitated husbands and dependent children under 18 years of age of mothers' allowance recipients, and spouses and dependent children under 18 years of age of persons in receipt of unemployment relief also receive coverage.

Also covered, under other provincial auspices, are physicians' services rendered to patients in homes for the aged, and such services for wards of Children's Aid Societies.

Recipients averaged 201,680 persons per month in 1960 under the medical welfare plan.

Benefits

Pharmaceutical benefits include only emergency drugs "of the type which a physician ordinarily carries on his first visit".

However, provision is made for an extra monthly allowance of $20 for elderly, disabled and blind recipients, when required for expensive drugs and similar extraordinary expenditure.

Other Benefits Available

Medical benefits include the physician of the patient's choice for home and office calls, obstetrical care, and minor surgery performed in the doctor's office.

Emergency laboratory procedures that are normally part of the physician's examination are paid for. Other procedures are performed free by the provincial health department laboratories if on behalf of welfare plan beneficiaries.

Refractions are a benefit, and so is emergency dental care, including repairs for dentures of unemployment-relief recipients. Since January 1, 1959, a new program of basic dental care has been provided for all dependent children under 16 years of age of mothers' allowance recipients.

Administrative Arrangements

The Ontario Medical Association under an agreement with the provincial government administers the Medical Welfare Plan. Payments for emergency and similar drugs are not separately administered since such items are normally a component of the bill rendered by the doctor after his visit.

Basis of Payment and Financial Experience

Costs are met substantially by the provincial government, which pays into a fund on the basis of a flat monthly contribution ($1.25 at April 1, 1959) for each beneficiary. Municipalities providing unemployment relief contribute 20 per cent of the per capita payment on behalf of each unemployment-relief beneficiary. Most physicians' calls are reviewed and taxed by a formula that adjusts to the average any accounts that show a volume of service significantly above the average for all physicians' accounts. After administration costs are deducted, the physicians receive sums proportionate to the volume of service rendered and up to the maximum set by the per capita contribution. Pharmacists are paid directly for emergency drugs and for special drugs under the program of special assistance for the aged.

The following tabulation of revenue and expenditure, from which drug items cannot be abstracted, reveals the scope of operations of the plan.

	1961	*1960*
Revenue from all sources.....	$3,382,810	$3,148,840
Expenditures on physicians' services	3,134,889	2,952,565

Medically indigent persons receive care at local discretion. Drug expenditures in the aggregate are not known. Welfare medications authorized and paid for by the city of Toronto's welfare department in 1960 amounted to $55,700 and averaged 1,200 prescriptions per month. This would represent a cost of $3.87 per prescription.

MANITOBA

Coverage

The Social Allowances Act, which became effective for the provision of health services in July 1960, is designed to remove from municipal responsibility those kinds of individual need that are long-term in character. There is no test of means but there is a test of need. The groupings comprise:

(1) A family where there are dependents under 18 years of age and where their need arises through death of, disability of, or desertion by, the breadwinner;

(2) Infirmity;

(3) Age, blindness, or disability, where pension provisions are considered inadequate;

(4) Neglected children.

In addition, temporary coverage is available in unorganized territories to individuals or families in need because of unemployment, crop failure, or other emergency.

For all the approximately 23,500 persons listed as beneficiaries (heads of families and dependants) under these categories, health benefits are available under the program.

Benefits

Essential prescribed drugs are available under the program. Pharmacists bill at discounted prices. The general intention is that drugs must be prescribed by their generic rather than their trade names.

Other Benefits Available

In addition to essential drugs, the health services include home and office calls by a physician of the patient's choice, glasses, prosthetic appliances, prescribed nursing services and necessary home-attendant or homemaker services.

In designing the program, it was agreed by the government and the organized medical profession that teaching methods for medical students should not be disturbed. The practice was therefore retained of having indigent patients receive in- and out-patient care at teaching hospitals. Doctors therefore receive no remuneration for services they provide to indigents in hospitals.[1]

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[1] In the three westernmost provinces, in contrast, they receive payment on a contractual fee-for-service basis.

Persons who demonstrate need, even though not receiving supplemental financial allowances, are entitled to medically required hospital care.

Administrative Arrangements

The public authority arranges for direct payment to pharmacists.

Basis of Payment and Financial Experience

Essentially, costs of drugs are met from the general revenues of the province. During the first nine months of operation of the program outside Winnipeg, 26,550 prescriptions were filled through retail outlets at a total cost of $75,000. This represented an average of $2.82 per prescription. In the city of Winnipeg, 13,659 prescriptions similarly filled cost $41,400 or $3.03 per prescription. Thus, average costs per prescription were 7 per cent higher in the metropolitan area.

Some other prescriptions for recipients of public assistance were filled at hospital pharmacies. A total of 2,479 drug orders were so filled at a cost of $4,092 or $1.65 per prescription.

Aggregate expenditures for the nine months' period thus reached $120,492.

The retail prescription prices used in the program are 85 per cent of those in the suggested pricing schedule of the Manitoba Pharmaceutical Association.

SASKATCHEWAN

Coverage

The definition of eligibility for pharmaceutical and other benefits depends essentially on a determination of neediness by the staff of the Department of Social Welfare and Rehabilitation. Health care services, although administered by the Medical Services Division of the Department of Public Health, are in a sense but a component of the general program of economic assistance by the Department of Social Welfare.

Most public assistance beneficiaries are individuals who have received continuous financial assistance over a period of years. The largest segment of these is needy persons 70 years of age and over, that is to say, recipients of old age security pensions, and their dependents, who qualify also for a provincial supplemental allowance on a test of need (formerly means); their benefits include prescribed drugs. Residents 65–69 years of age who are needy – that is, who are recipients of federal-provincial old-age assistance allowances – have been eligible to receive hospital care since January 1953 and medical care since the beginning of 1963; they are the only group of public assistance beneficiaries not entitled to pharmaceutical benefits.

The next largest segment of beneficiaries is recipients of provincial mothers' allowances granted by reason of the death, disability, or unavailability, of the family breadwinner, and all their dependants, including disabled husbands.

Another group is the recipients of blind persons' allowances and their dependants, including their spouses. Finally, there are child welfare cases – usually the children of unmarried mothers – and certain other children assigned to guardians.

Another general category of indigent persons gets assistance for health services not continuously but from time to time, depending on their state of neediness. These Social Aid cases, as they are called, come under various forms of supervision of the provincial welfare department and consist of: single, homeless, transient persons; transient families; economically depressed members of the Metis ethnic group; patients of the civilian rehabilitation program (a provincial program for the social and medical rehabilitation of currently unemployable, but potentially employable, persons); wards of the government; inmates of jails; juvenile delinquents under provincial protection; indigent immigrants (partially provided for by the federal government); paraplegics; indigent persons with poliomyelitis; and certain medically indigent residents of local improvement districts. The province has not moved as far as some provinces, such as British Columbia, in assisting unemployed employables.

Finally, there are the beneficiaries of local units of government, who receive financial support for health care benefits on a more or less sporadic basis. These total an estimated 20,000 persons.

Table 12 shows the average number of recipients of the long-term assistance program in each of the nine fiscal years from 1952–53 to 1960–61, according to class of beneficiary. Excluding those persons who receive care on an episodic basis only, as under the programs for prevention of blindness and relief to the destitute, there was also an average of 5,313 social aid recipients in 1960–61. There was a gradual, though somewhat irregular, decrease in the number of beneficiaries under the various long-term categories over the period. The provincial program covers 3 per cent of the total population of the province. Considering the long-term group, there is a moderate urban concentration of beneficiaries relative to the general population distribution in the province (Table 13). The age and sex proportions (Tables 14 and 15) reflect, as would be expected, the special composition of the covered groups with proportionately more females than males above age 14 and a heavy concentration of persons aged 70 years or more and 14 years or less.

Public assistance beneficiaries are thus far from being randomly distributed over the population with regard to age and sex, and consequently their utilization of drugs cannot be taken as indicative of the likely utilization by the people generally. For example, one-quarter of males and one-third of females 70 years and over were beneficiaries, but only one in a thousand males aged 25–44 was on the rolls.

Benefits

As in most public medical care programs in Canada and elsewhere, difficulties have always been encountered in the form of excessive drug consumption, and in 1948 a charge of 20 per cent (in 1959 increased to 50 per cent) of the

price of prescriptions was imposed upon the beneficiaries of the long-term program. The Social Aid categories, who tend to be completely without financial resources, are exempt from this charge, and it can be waived on the recommendation of the physician in any other case of real hardship. There is no charge for "life-saving" drugs such as parenteral liver extract and vitamin B12; insulin, though not a prescribed drug, is furnished without charge directly from government stocks.

Drugs, other than insulin, are provided only on medical prescription, and the physician is ordinarily expected to prescribe no more than a two weeks' supply.

A drug formulary is not employed, but certain items believed to be extravagant or worthless are excluded on recommendation of an Advisory Committee on Drugs. On the other hand, the range of drug benefits for beneficiaries in hospital is broader than that under the Saskatchewan Hospital Services Plan, which is intended to provide "most drugs in general use".

Other Benefits Available

There are certain differences between the benefits provided for beneficiaries of the long-term public assistance program and those for Social Aid recipients, but all provincial beneficiaries are eligible for an extensive range of medical and related services that compare with those that can be purchased by self-supporting individuals.

Medical benefits include the services of physicians in the home, office, and hospital. There is free choice of practitioner, including direct access to specialists without referral by a general practitioner. (This is a benefit beyond that provided by the province's medical care program, which covers the full charges for specialists' services on referral only.) Prior authorizations by the provincial health department were required, in early stages of the program, for elective surgery and extensive diagnostic tests. This requirement proved to be difficult to administer effectively, especially for a rural and semi-rural population, and was abandoned in 1951.

Appliances are furnished on the advice of a physician, subject to prior approval by the public authority. Spectacles, however, may be obtained directly on prescription from a physician or an optometrist, subject to prior approval only if a second pair is sought within two years.

Beneficiaries obtain dentists' services without referral or recommendation by a physician. Fillings and extractions are not restricted. Prosthetic dental service is subject to limitations, e.g., only $50 on a complete set of upper and lower dentures, with the patient responsible for the rest of the dentist's charge.

Hospital accounts are paid under the automatic coverage of the Saskatchewan Hospital Services Plan. In addition, as noted, beneficiaries are entitled to certain out-patient hospital services and to various in-patient drugs which are not S.H.S.P. benefits. Thus, special duty nurses can be provided, and some home nursing care.

Physiotherapy services are available in private offices or in hospital out-patient departments, if medically prescribed and given under prior authorization by the public authority. Such authorization is not required for chiropody services.

There are valid historical reasons for regarding any program of health services dependent on a means test as less desirable for the beneficiary, and less stable in the long run, than an organized service available to all persons. Thus care for any illness or disability for which other diagnostic and treatment services are offered to the general population is not financed by the Medical Services Division of the provincial health department. These conditions include cancer, tuberculosis, mental illness and retardation, venereal diseases, paralytic poliomyelitis and cerebral palsy. Drugs are provided, associated with these programs, as required.

Administrative Arrangements

The Medical Services Division, which administers the entire public assistance medical program, is an agency that reports to a branch director. The branch director co-ordinates hospital, medical, and rehabilitative services and in turn reports directly to the deputy minister of the provincial health department. Thus the health department maintains control and direction of all health-care aspects of the program, including drugs and drug utilization. This contrasts with the practice in other provinces with organized public assistance programs in which, typically administration and assessment of claims are turned over to a payment agency controlled by the organized medical profession. Determination of eligibility in Saskatchewan rests, as previously noted, with the provincial Department of Social Welfare and Rehabilitation.

This completeness of administrative arrangements undoubtedly is a factor in the overhead expenses that some observers consider to be high. Administrative expenses represent about 8 or 9 per cent of the total budget of the Medical Services Division. Programs financing only one class of service to one class of recipient, such as hospital care of physicians' services to a general population, tend to have proportionately lower administrative expenses. In the Saskatchewan public assistance program, however, there are eight classes of health service and eighteen classes of beneficiary. It costs as much to process a prescription for drugs assessed at $1 as to process a surgical bill at $100; and there are twice as many drug as medical accounts to handle each month.

Basis of Payment

Pharmacists charge the plan according to the Uniform Prescription Pricing Schedule of the Saskatchewan Pharmaceutical Association. Their accounts are reviewed by an administrative pharmacist employed by the provincial health department. When approved, they are paid in full.

For the in-patient drugs that are excluded from S.H.S.P. benefits, the public authority pays the hospital on a fee basis according to an agreed schedule.

Experience in Utilization of Services

The use of drugs is largely a function of the use of medical and hospital care services. Thus if, in the Saskatchewan program, public assistance recipients make more use of physicians' services than the general population do, there might be expected to be higher drug utilization among the recipients.

To put it another way, comprehensive drug benefits associated with freely available medical care services remove significant constraints and greatly increase the area to be controlled. Consequently artificial controls must be imposed; they in turn increase the complexity of the regulations and the size of administrative staff. In a broad program it is more difficult to achieve successful control through measures directed primarily at the eligible person than at the doctor and the hospitals. Such measures carry a hazard of adversely affecting the general intent of the program in its social and health-care context. This danger may explain the delay by Saskatchewan in extending benefits to old-age allowance recipients and unemployed employables, since such an extension might be expected to increase aggregate outlays at a time when economically significant cost-cutting measures in other directions are not feasible.

The over-all volume of medical and related services received by indigent persons in Saskatchewan is high. This is true whether comparisons are made with the experience of the same age groups in the general population, or with the experience of other programs of organized medical services.

From an examination of what may be called the epidemiology of medical care, as revealed by the statistics of the Saskatchewan public assistance medical care plan, it is clear that, with time and experience, there tends, other things being equal, to be a gradually increasing utilization of physicians' services. Total calls rise steadily, and the percentage of beneficiaries receiving some service in a year rises also, but at a slower rate of climb as the years go by. Thus, in 1950, this percentage was 65; it reached 82 in 1954 and in recent years has levelled off at about 90. Certainly, much of a backlog is met during the early years of a new program, especially with respect to dental and optical services. Nevertheless, for prescribed drugs and services of physicians, the influence of experience and education seems to outweigh the back-log effect and lead to steadily increasing utilization.

In the fiscal year ending in 1961 there were 6,784 prescriptions issued per 1,000 beneficiaries (Table 18). It was the rising volume of prescriptions (and the higher associated costs) that had led to the imposition in 1948 of a 20 per cent, and subsequently, in 1959, of the 50 per cent charge on the patient. It is worth recording that these co-charges have not had the deterrent effect originally hoped for, even though they were followed by an over-all reduction in drug utilization.

The deterrent effect, if any, of the co-charge has been difficult to assess because the usage rate that would have occurred in the absence of the co-charge cannot be determined. Moreover, increased utilization of some drugs may be offset by decreased use of others. The statistical data do suggest, however, that some deterrent effect has persisted. The rate of prescriptions filled per 1,000 beneficia-

ries had risen from 6,800 to 7,300 between 1958 and 1959 but in 1960, after the co-charge was increased, fell to 6,700, and this drop in utilization was the first during the period studied. Furthermore, the 1961 rise over 1960 was less than 1 per cent[1] whereas previous annual increases over preceding years had not been below 5 per cent and in 1958 had reached 12 per cent.

Tables 20 and 22 further illustrate the difficulties in arriving at clear-cut explanations of changes in utilization that might be attributed to newly increased co-charges. The 1959 co-charge increase was followed by a sharp decrease only in the 1–4 age bracket, and by only moderate decreases in most other classes. There was actually an increase for males aged 25–44 (likely explainable for this small group because of overriding medical necessity, since the recipients are predominantly seriously incapacitated husbands). The sharp increase in 1960 in the under 1-age group, for both sexes, suggests that the co-charge might have been inoperative for newborns in that year.

The drop in utilization that came in 1960 was greatest in cities, at 12.4 per cent, and towns, at 11.4 per cent. It was smaller in villages, at 7.2 per cent, and negligible in rural areas. This could signify that rural prescribing practices have been at optimum levels for several years, which is to say that rural requirements represent the hard core of actual medical need and cannot and will not be reduced even though the cost to the recipient is higher. Such an observation cannot be more than conjectural because of the numerous other variables involved, but the data are certainly consistent with an assumed inelasticity of demand for essential drugs.

Insulin and oral hypoglycaemic agents for diabetes as well as injectable liver and vitamin B12 for pernicious anaemia continued to be provided from departmental stocks on the order of attending physicians. The number of persons receiving these drugs at March 31, 1961 was: insulin, 288; oral hypoglycaemic agents, 560; and injectable liver and vitamin B12, 225. Commonly used corticosteroids were also supplied from central stock at the request of physicians.

Views differ on the influence of drug utilization upon the quality of medical care. These views will be developed later, but it is worthwhile for the observer to pause here and ask what other forms of therapy are available to meet the needs of aged persons with chronic ailments and persistent minor symptoms. Undoubtedly, economies could be attained by a choice of standard preparations, listed in official pharmacopoeias, rather than the latest brand-named proprietaries, but the high per-person cost of prescribed drugs *per se* is not necessarily to be regretted. The following tabulation lists for long-term beneficiaries the ten classes of prescribed drugs with highest total amount paid in 1959–60. These are medications dispensed by drugstores and hospitals, exclusive of drugs supplied to in-patients under S.H.S.P. The amount paid represents payments by the Medical Services Division,

[1] Figures for 1962 (made available after the preparation of the tables in this report) show a rate of 6,952 prescriptions per 1,000 long-term beneficiaries, for a second successive increase of less than 1 per cent.

which are equivalent to approximately 50 per cent of the full price for prescriptions dispensed by drugstores and physicians and 60 to 70 per cent of the full price for prescriptions dispensed by hospitals. The ten groups of drugs constitute 57 per cent of the total payment by the Division for drugs to pharmacies, physicians, and hospitals, and 51 per cent of the total number of prescriptions paid for by the Divisio

Type of Prescription	*Number of Prescriptions*	*Total Amount Paid*	*Amount Paid per Prescription*
		$	$
Systemic broad spectrum antibiotics	5,868	41,935	7.15
Multivitamins and vitamins and minerals	11,318	22,295	1.97
Antihypertensives	9,978	18,688	1.87
Diuretics and antidiuretics	9,605	17,089	1.78
Ataractics	5,887	15,865	2.69
Barbiturates	17,364	13,488	0.78
Opiates	9,348	9,255	0.99
Digitalis and its glycosides	13,523	8,511	0.63
Laxatives and cathartics	6,778	7,481	1.10
Antiasthmatics and respiratory antispasmodics	3,941	7,163	1.82

The influence of physical accessibility of doctors upon the receipt of drug benefits – as stemming from and functionally related to medical care services – is clearly demonstrated in the Saskatchewan program. Drug prescriptions in 1953 ranged from 3,612 per 1,000 persons in the rural areas to 5,927 per 1,000 in the cities (Table 22). In 1961 the rates were 5,427 in rural areas, 7,418 in cities, and even higher (7,853) in towns. There is no question that these differences are related to the greater proportionate number of doctors and the easier travelling conditions in the urban settlements.

It is difficult to establish whether there are, in association with these volume changes, significant qualitative differences in type of drug prescribed that might reflect the impact of rural living. For example, with respect to diagnostic procedures, which are correlated in some degree with preventive attitudes towards sickness and disability, the differential between rural and urban is striking, being about 2:1 between cities and rural locations. In dental health, similarly, the effect of rural life is startlingly demonstrated by the fact that for fillings the utilization by city residents is much higher than rural, while for extractions, it is the opposite. By extension, it might be suggested that city-dwelling recipients would receive drugs of a character associated with the prevention of certain diseases and conditions. It would not necessarily follow that prescribing practices for cities and large towns would be more expensive in the long run than for rural areas.

Financial Experience

The Saskatchewan program has demonstrated that adequate health care is not cheap. With the rising volume of care and the rising cost of purchasing an item of medical, hospital, pharmaceutical, or related service, there has been a steady rise in the cost of the program per beneficiary since its inception in 1945.

Expense data for fiscal years ending March 31 from 1953 to 1961 are presented in Tables 23 to 30. Total drug expenditures for all classes of beneficiary rose from $247,971 in 1953 to $548,438 in 1959 (Table 23). The per-person expenditures on long-term beneficiaries increased from $7.53 to $16.62 (Table 24). Some of the increase is to be attributed to higher unit prices for drugs; these increased for all beneficiaries from $1.67 per prescription in 1953 to $2.39 in 1959 (Table 27). Decreases in total and per-beneficiary costs in 1960 and 1961 were caused to some extent by a falling off in utilization, as noted earlier, but much of the decreases in these figures, and the reduction in per-prescription payments since, resulted from the fact that the figures exclude payments by the long-term beneficiaries, who for the most part were in 1960 and 1961 absorbing 50 per cent instead of 20 per cent of the charges for prescriptions. The long-run upward trend is shown most clearly with respect to the short-term, Social Aid recipients (Tables 23 and 25). Total expenditures for these persons increased from $22,763 in 1953 to $73,281 in 1961 and prescription unit prices moved from $2.41 to $4.20 over the same period (co-charges are not levied against this group, and most drugs they require are purchased at retail and not obtained from government stocks). Evidently, given the free play of market demand for drugs and readiness by the public authority to continue paying going charges for the prescribed items, the higher total expenditures which ensue under these circumstances mean that both factors mentioned – greater use per person and higher unit prices – operate in the same direction and in significant degree. A third factor, the changes in numbers of beneficiaries arising from a combination of population change and economic cycles, is not highly important in Saskatchewan (but as will be seen later, is enormously significant in the Province of British Columbia).

Tables 26 and 27 show amounts paid for drugs by class of dispensing agency. What is of interest here is the especial importance in a semi-rural province of there being numerous drugstores. In a study made in 1951[1] the role of the small-town drugstore was assessed in relation to the methods whereby services could be sustained for rural and semi-rural populations. It was considered desirable to adopt as public policy utilization and remuneration practices that would ensure a sufficiently adequate return to the small retail pharmacist to enable him to continue in business. It would be interesting to determine whether his share of the total volume of prescribed items has been maintained notwithstanding the substantially increased expenditures for non-S.H.S.P. benefit drugs prescribed for patients occupying hospital beds.

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[1] *Saskatchewan Health Survey Report, 1951,* Volume I, The Health Survey Committee, Regina.

Tables 28, 29 and 30 show expenditures for long-term beneficiaries according to sex and age group. These data confirm in dollar terms the practices and trends already revealed in terms of quantities demanded. Those over 70 do use, and have used since the inception of the program, the bulk of the prescribed drugs. It has been suggested earlier that much of this drug outlay is for palliative and supportive therapy and probably relates little to the preventive and rehabilitative aspects of therapy.

It would appear that it is the old-age pensioners upon whom the additional deterrent levy of 1959 has imposed its greatest burden since, as Tables 18 and 23 show, the decreases in utilization among them after 1959 are proportionately smaller than the decreases in government expenditure, and by a narrower margin than among the mothers' allowance and blind persons' allowance recipients.

Data from sickness surveys and other sources suggest that on a per capita basis the expenditures for recipients in the Saskatchewan program for the indigent are three times higher than for each person in the population as a whole. This difference is obviously due in part to the skewed age distribution of the indigent group, with its heavy concentration of the aged (Table 15), who need the most care. It is due also to the greater medical and social problems in persons of low income. But it is possibly, too, a result of public policies designed to eliminate much of the cash nexus and thus to meet medical and pharmaceutical needs expressed – needs that among non-protected groups are hidden by financial barriers.

The Quality of Service

What may be said about the quality of the pharmaceutical benefit provided in this program? Obviously the principal influences on the quality of services for public assistance beneficiaries lie not within this program at all, but in the sphere of professional education, availability of practitioners and pharmacists and the self-discipline of these two professions and of hospital administrators, and the impact of laws and customs. Within the program itself, however, certain policies undoubtedly affect the quality of care.

Only duly licensed doctors and dentists, for one example, are authorized to issue prescriptions. The detailed review of accounts by a central assessment board is a continuing deterrent on overprescribing. The review assessments can be expected to yield a reduction of about 9 per cent in the accounts to be paid. The influence of such reductions is not immediate, but does affect prescribing habits. In addition to this method of control, there is provision in the beneficiary's health services card for a statement of principal diagnosis by the attending physician. This tends to discourage the patient from visiting several doctors concurrently and so collecting a variety of prescribed medications.

The requirement of medical authorizations for drugs controls quality – as well as funds – by not permitting new and unproven drugs as benefits until they are approved by the provincial Drug Advisory Committee.

In general, it is impossible to separate, in an evaluation, the improvement of quality from the quantity of rendered medical and pharmaceutical services. The absence, because of poverty, of needed medical care and associated pharmaceutical products is surely the negation of improvement of quality. In this sense, the simple availability of prescribed medications permits a generally higher quality of service than would otherwise be had by these low-income beneficiaries. On the other hand it is often contended that there is excessive care – that beneficiaries go to the doctor to pass the time of day, consume medical time needed for more serious cases, and receive a prescription. No person, however, will visit a doctor without being driven by some need, even if it is psychological or psychosomatic. Modern medicine, it is argued, must take account of such health problems. The utilization patterns of public assistance recipients reveal, for example, considerable volumes of sedatives and of vitamins and related preparations. The unit cost is low, but the volume makes for significant aggregate expenditure. Both types of medication are associated more with palliation and supportive therapy than with curative procedures or prevention, but must be recognized as an integral part of the modern treatment complex. It may, in fact, be observed that there is as convincing evidence of under-use as of over-use of the program. In a typical year, about one-tenth of the long-term beneficiaries do not secure a single service of any type during the year and perhaps one-quarter do not consult a doctor at all, this notwithstanding the orientation of the program towards prompt medical attention, prompt diagnosis and treatment, and adequate medication, and the fact that under-utilization today is of much less serious proportions than was true in its emerging years during the late 1940's and early 1950's.

TABLE 12

NUMBER OF LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF BENEFICIARY, SASKATCHEWAN, 1952-53 TO 1960-61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
OAS(SA)[a]	20,073	19,966	19,926	19,435	19,228	19,310	19,476	19,005	18,913
MA[b].....	9,130	8,491	8,572	9,406	9,234	8,540	8,027	7,780	7,873
BPA[c].....	705	579	582	523	535	540	552	536	532
Long-term	29,908	29,036	29,080	29,364	28,997	28,390	28,055	27,321	27,318

(a) Old-age security (supplemental allowance) recipients.

(b) Mothers' allowance recipients.

(c) Blind persons' allowance recipients.

NOTE: Sources are not shown on the tables, except for Table 15. Tables 12, 13, 14, 16, 17, 19, 21, 23, 26 and 28 are taken directly from "Medical Services Division Statistical Tables" for the years studied; Tables 16, 19, 23 and 26 come from Table P1 in the source; Tables 12, 13, and 14 from Table 2 in the source; Tables 17 and 28 from Table P5 in the source; and Table 21 from Table P6 in the source. Tables 18, 20, 22, 24, 25, 27, 29 and 30 are derived by calculation from the other tables.

TABLE 13

NUMBER OF LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY RESIDENCE OF BENEFICIARY, SASKATCHEWAN, 1952-53 TO 1960-61

Residence	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
City	7,379	7,440	7,405	7,664	7,811	7,953	8,211	8,255	8,819
Town	5,694	5,949	6,550	6,565	6,502	6,189	5,972	5,987	5,874
Village	7,886	7,654	7,596	7,375	6,822	6,475	6,216	5,916	5,575
Rural Area	8,949	7,993	7,529	7,760	7,862	7,773	7,656	7,163	7,050
Total	29,908	29,036	29,080	29,364	28,997	28,390	28,055	27,321	27,318

TABLE 14

NUMBER OF LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY SEX AND AGE, SASKATCHEWAN, 1953–54 TO 1960–61

Age	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
Male									
Under 1	Not available	81	80	63	59	56	55	61	68
1 – 4		451	443	486	464	389	346	368	405
5 – 14		1,934	2,020	2,174	2,093	1,988	1,861	1,804	1,820
15 – 24		506	473	570	633	572	576	610	605
25 – 44		231	266	284	228	196	179	130	131
45 – 64		479	561	624	595	545	462	426	407
65 – 69		265	324	270	268	289	266	238	282
70 and over		9,152	9,041	8,847	8,703	8,640	8,619	8,333	8,135
Age unstated		95	26	21	16	2	2	2	–
Total		13,194	13,234	13,339	13,059	12,677	12,366	11,972	11,853
Female									
Under 1	Not available	83	58	62	47	64	48	59	77
1 – 4		445	437	457	407	362	344	341	377
5 – 14		1,884	1,902	2,072	2,111	1,908	1,804	1,719	1,727
15 – 24		688	654	741	725	743	749	726	729
25 – 44		1,204	1,269	1,277	1,282	1,193	1,139	1,102	1,129
45 – 64		1,668	1,784	1,868	1,919	1,959	1,975	2,003	2,000
65 – 69		1,015	1,082	1,041	1,027	1,030	1,031	932	943
70 and over		8,622	8,578	8,436	8,354	8,449	8,592	8,463	8,480
Age unstated		233	82	71	66	5	7	4	3
Total		15,842	15,846	16,025	15,938	15,713	15,689	15,349	15,465

TABLE 15

BENEFICIARIES, POPULATION, AND BENEFICIARIES PER 1,000 POPULATION, BY SEX AND AGE, SASKATCHEWAN, 1961

Age in Years	Beneficiaries[a]		Population[b]		Beneficiaries per 1,000 Population	
	Male	Female	Male	Female	Male	Female
0–4	473	454	58,343	55,412	8	8
5–14	1,820	1,727	102,907	98,252	18	18
15–24	605	729	66,434	63,426	9	11
25–44	131	1,129	117,174	112,215	1	10
45–64	407	2,000	87,328	78,120	5	26
65–69	282	943	15,244	12,964	18	73
70 and over	8,135	8,480	32,134	25,228	253	336
Age unstated	—	3	—	—	—	(c)
Total	11,853	15,465	479,564	445,617	25	35

(a) Average eligible during year ending March 31, 1961.

(b) According to decennial Census taken June 1961.

(c) Meaningful rate not calculable.

Source: Dominion Bureau of Statistics, *Census of Canada, 1961*, and Table 14.

TABLE 16

NUMBER OF PRESCRIPTIONS ISSUED TO PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF BENEFICIARY, SASKATCHEWAN, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
OAS(SA)(a)	115,625	123,152	133,685	143,659	148,870	164,688	177,307	160,050	161,318
MA(b)	20,630	19,958	21,086	23,973	25,847	26,368	25,386	21,265	21,370
BPA(c)	2,963	2,454	2,425	2,569	2,780	3,203	3,111	2,629	2,644
Long-term	139,218	145,564	157,196	170,201	177,497	194,259	205,804	183,944	185,332
Short-term	9,452	9,228	11,717	14,969	16,600	19,894	23,520	15,636	17,441
Total	148,670	154,792	168,913	185,170	194,097	214,153	229,324	199,580	202,773

(a) Old-age security (supplemental allowance) recipients.

(b) Mothers' allowance recipients.

(c) Blind-persons' allowance recipients.

TABLE 17

NUMBER OF PRESCRIPTIONS ISSUED TO LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY SEX AND AGE OF BENEFICIARY, SASKATCHEWAN, 1952–53 TO 1960–61

Age	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	Male								
Under 1..	99	104	152	30	59	49	32	108	62
1 – 4..	697	589	619	774	946	864	835	568	865
5 – 14..	1,574	1,416	1,583	1,628	1,768	2,022	1,945	1,555	1,572
15 – 24..	464	385	499	647	659	946	819	725	659
25 – 44..	1,201	1,177	1,333	1,416	1,355	1,446	1,560	1,167	812
45 – 64..	3,381	3,343	3,705	4,317	4,440	4,187	3,842	3,370	3,278
65 – 69..	1,224	1,477	1,223	1,507	1,130	1,560	1,396	1,142	1,222
70 & over	46,465	49,103	54,357	56,185	58,124	65,446	71,305	62,242	61,741
Age unstated	–	328	118	37	21	16	6	1	88
Total..	55,105	57,922	63,589	66,541	68,502	76,536	81,740	70,878	70,299
	Female								
Under 1..	64	79	39	26	79	75	43	91	55
1 – 4..	705	653	606	659	804	775	768	506	693
5 – 14..	1,825	1,909	1,903	2,181	2,307	2,205	2,080	1,833	1,694
15 – 24..	1,128	993	1,163	1,395	1,528	1,686	1,725	1,441	1,495
25 – 44..	6,037	5,335	5,674	6,171	6,524	6,405	6,422	5,147	5,106
45 – 64..	8,583	8,719	8,745	9,326	10,746	11,427	12,156	11,455	11,351
65 – 69..	6,202	7,161	7,153	6,897	6,841	7,139	7,579	6,849	6,593
70 & over	59,567	62,153	67,906	76,742	79,938	87,857	93,279	85,728	88,007
Age unstated	2	640	418	263	228	154	12	16	38
Total..	84,113	87,642	93,607	103,660	108,995	117,723	124,064	113,066	115,032
	Sex Unstated								
Total..	–	–	–	–	–	–	–	–	1

TABLE 18

PRESCRIPTIONS ISSUED PER 1,000 LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF BENEFICIARY, SASKATCHEWAN, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
OAS (SA)	5,760	6,168	6,709	7,392	7,742	8,529	9,104	8,421	8,529
MA	2,260	2,350	2,460	2,549	2,799	3,088	3,163	2,733	2,714
BPA	4,203	4,238	4,167	4,912	5,196	5,931	5,636	4,905	4,970
Long-term	4,655	5,013	5,406	5,796	6,121	6,843	7,336	6,733	6,784

TABLE 19

NUMBER OF PRESCRIPTIONS ISSUED TO PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF DISPENSING AGENCY, SASKATCHEWAN, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
D and D[a]	146,557	152,224	165,721	179,403	188,181	207,018	221,110	190,485	192,635
H (I-P)[b]	1,641	2,117	2,707	3,968	5,222	6,638	7,649	8,465	9,719
H (O-P)[c]	472	451	485	1,799	694	497	565	630	419
Total	148,670	154,792	168,913	185,170	194,097	214,153	229,324	199,580	202,773

(a) Drugstores and doctors.

(b) Hospitals (in-patients); includes only drugs not provided as benefits of the Saskatchewan Hospital Services Plan.

(c) Hospitals (out-patients); includes only drugs not provided as benefits of the Saskatchewan Hospital Services Plan.

TABLE 20

PRESCRIPTIONS ISSUED PER 1,000 LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY SEX AND AGE, SASKATCHEWAN, 1953-54 TO 1960-61

Age	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	Male								
Under 1	Not available	1,284	1,900	476	1,000	875	582	1,770	912
1 – 4		1,306	1,397	1,593	2,039	2,221	2,413	1,543	2,136
5 – 14		732	784	749	845	1,017	1,045	862	864
15 – 24		761	1,055	1,135	1,041	1,654	1,422	1,189	1,089
25 – 44		5,095	5,011	4,986	5,943	7,378	8,715	8,977	6,198
45 – 64		6,979	6,604	6,918	7,462	7,683	8,316	7,911	8,054
65 – 69		5,574	3,775	5,581	4,216	5,398	5,248	4,798	4,333
70 and over		5,365	6,012	6,351	6,679	7,575	8,273	7,469	7,590
Total[a]		4,390	4,805	4,988	5,246	6,037	6,610	5,920	5,931
	Female								
Under 1	Not available	952	672	419	1,681	1,172	896	1,542	714
1 – 4		1,467	1,387	1,442	1,975	2,141	2,233	1,484	1,838
5 – 14		1,013	1,001	1,053	1,093	1,156	1,153	1,066	981
15 – 24		1,443	1,778	1,883	2,108	2,269	2,303	1,985	2,051
25 – 44		4,431	4,471	4,832	5,089	5,369	5,638	4,671	4,523
45 – 64		5,227	4,902	4,993	5,600	5,833	6,155	5,719	5,676
65 – 69		7,055	6,611	6,625	6,661	6,931	7,351	7,349	6,992
70 and over		7,209	7,916	9,097	9,569	10,399	10,856	10,130	10,378
Total[a]		5,532	5,907	6,469	6,839	7,492	7,908	7,366	7,438

(a) Includes males and females of unstated age; for frequencies of these as eligible persons, see Table 14; for frequencies of prescriptions issued to persons of unstated age, see Table 17; but note that persons of unreported age in eligibility records will not necessarily correspond to persons of unreported age in prescription-issuance records, so that meaningful rates for the unstated group as such cannot be computed.

TABLE 21

NUMBER OF PRESCRIPTIONS ISSUED TO LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY RESIDENCE OF BENEFICIARY, SASKATCHEWAN, 1952-53 TO 1960-61

Residence	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
City	43,732	46,677	50,400	53,554	56,976	66,204	71,598	63,058	65,415
Town	30,780	33,141	39,983	47,333	48,806	51,516	53,567	47,454	46,130
Village	32,385	33,825	34,805	36,740	37,292	39,170	41,044	36,393	35,528
Rural Area	32,321	31,921	32,008	32,574	34,423	37,369	39,595	37,039	38,258
Residence Unstated	—	—	—	—	—	—	—	—	1
Total	139,218	145,564	157,196	170,201	177,497	194,259	205,804	183,944	185,332

TABLE 22

PRESCRIPTIONS ISSUED PER 1,000 LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY RESIDENCE OF BENEFICIARY, SASKATCHEWAN, 1952-53 TO 1960-61

Residence	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
City	5,927	6,274	6,806	6,988	7,294	8,324	8,720	7,639	7,418
Town	5,406	5,571	6,104	7,210	7,506	8,324	8,970	7,926	7,853
Village	4,107	4,419	4,582	4,982	5,466	6,049	6,603	6,152	6,373
Rural Area	3,612	3,994	4,251	4,198	4,378	4,808	5,172	5,171	5,427
Total	4,655	5,013	5,406	5,796	6,121	6,843	7,336	6,733	6,784

TABLE 23

AMOUNT PAID BY SASKATCHEWAN FOR PRESCRIPTIONS ISSUED TO PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF BENEFICIARY, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
OAS(SA)	186,625	214,306	249,786	285,861	306,244	349,934	399,490	246,456	246,828
MA	33,872	35,467	41,845	49,209	53,962	57,079	59,567	34,238	37,142
BPA	4,711	4,243	4,409	4,982	6,323	7,105	7,353	4,332	4,790
Long-term	225,208	254,016	296,040	340,052	366,529	414,118	466,410	285,026	288,760
Short-term	22,763	23,726	31,513	49,294	55,307	69,885	82,028	70,244	73,281
Total	247,971	277,742	327,553	389,346	421,836	484,003	548,438	355,270	362,041

TABLE 24

AMOUNT PAID BY SASKATCHEWAN
PER BENEFICIARY FOR PRESCRIPTIONS ISSUED TO LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF BENEFICIARY, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
OAS(SA).....	9.30	10.73	12.54	14.71	15.93	18.12	20.51	12.97	13.05
MA	3.71	4.18	4.88	5.23	5.84	6.68	7.42	4.40	4.72
BPA.....	6.68	7.33	7.58	9.53	11.82	13.16	13.32	8.08	9.00
Long-term	7.53	8.75	10.18	11.58	12.64	14.59	16.62	10.43	10.57

TABLE 25

AMOUNT PAID BY SASKATCHEWAN PER PRESCRIPTION FOR PRESCRIPTIONS ISSUED TO PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF BENEFICIARY, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
OAS(SA)	1.61	1.74	1.87	1.99	2.06	2.12	2.25	1.54	1.53
MA.....	1.64	1.78	1.98	2.05	2.09	2.16	2.35	1.61	1.74
BPA.....	1.59	1.73	1.82	1.94	2.27	2.22	2.36	1.65	1.81
Long-term.....	1.62	1.75	1.88	2.00	2.06	2.13	2.27	1.55	1.56
Short-term.....	2.41	2.57	2.69	3.29	3.33	3.51	3.49	4.49	4.20
Total.....	1.67	1.79	1.94	2.10	2.17	2.26	2.39	1.78	1.79

TABLE 26

AMOUNT PAID BY SASKATCHEWAN FOR PRESCRIPTIONS ISSUED TO PUBLIC-ASSISTANCE BENEFICIARIES, BY CLASS OF DISPENSING AGENCY, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
D and D	238,414	264,316	309,523	361,417	389,865	444,208	500,693	305,944	314,278
H (I–P)[a]	8,628	12,450	17,086	25,782	30,773	38,296	46,127	47,930	46,844
H (O–P)[a]	829	976	944	2,147	1,198	1,499	1,618	1,396	919
Total	247,971	277,742	327,553	389,346	421,836	484,003	548,438	355,270	362,041

(a) Includes only drugs not provided as benefits of the Saskatchewan Hospital Services Plan.

TABLE 27

AMOUNT PAID BY SASKATCHEWAN PER PRESCRIPTION FOR PRESCRIPTIONS ISSUED TO PUBLIC-ASSISTANCE BENEFICIARIES, BY DISPENSING AGENCY, 1952–53 TO 1960–61

Class	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
D and D	1.63	1.74	1.87	2.01	2.07	2.15	2.26	1.61	1.63
H (I–P)[a]	5.26	5.88	6.31	6.50	5.89	5.77	6.03	5.66	4.82
H (O–P)[a]	1.76	2.16	1.95	1.19	1.73	3.02	2.86	2.22	2.19
Total	1.67	1.79	1.94	2.10	2.17	2.26	2.39	1.78	1.79

(a) Includes only drugs not provided as benefits of the Saskatchewan Hospital Services Plan.

TABLE 28

AMOUNT PAID BY SASKATCHEWAN FOR PRESCRIPTIONS ISSUED TO LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY SEX AND AGE OF BENEFICIARY, 1952–53 TO 1960–61

Age	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
Male									
Under 1	210	240	278	52	111	84	74	172	105
1–4	1,355	1,257	1,083	1,567	2,103	1,800	1,933	803	1,314
5–14	3,019	2,958	3,049	3,056	3,336	3,841	4,216	2,339	2,351
15–24	906	631	880	1,194	1,316	1,893	1,823	1,170	1,109
25–44	2,656	2,840	2,782	3,847	3,614	3,752	5,028	2,858	3,788
45–64	7,210	7,237	7,713	9,509	10,399	10,338	10,077	6,698	7,216
65–69	2,523	3,131	2,375	2,320	2,316	3,735	3,227	1,943	2,018
70 and over	93,682	107,346	104,252	114,288	122,439	142,942	161,345	103,151	101,388
Age unstated	—	651	238	71	30	48	37	1	134
Total	111,561	126,291	122,650	135,904	145,664	168,433	187,760	119,135	119,423
Female									
Under 1	104	148	74	48	162	147	86	145	82
1–4	1,390	1,438	1,070	1,326	1,670	1,468	1,805	788	1,011
5–14	3,676	4,068	3,350	4,004	4,440	4,151	4,165	2,409	2,433
15–24	2,124	2,041	2,125	2,416	3,052	3,208	3,408	2,286	2,248
25–44	12,674	11,925	11,059	12,038	12,957	13,986	14,774	7,561	7,655
45–64	17,032	18,824	16,515	18,413	22,257	24,105	27,509	17,070	17,230
65–69	12,386	15,173	13,419	13,331	14,255	15,158	17,435	10,427	9,496
70 and over	117,970	130,150	125,066	152,051	161,567	183,219	209,442	125,144	129,084
Age unstated	4	1,551	712	521	505	243	26	61	50
Total	167,360	185,318	173,390	204,148	220,865	245,685	278,650	165,891	169,289
Sex unstated									
Total	—	—	—	—	—	—	—	—	48

TABLE 29

AMOUNT PAID BY SASKATCHEWAN PER BENEFICIARY FOR PRESCRIPTIONS ISSUED TO LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY SEX AND AGE, 1953–54 TO 1960–61

Age	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
Male									
Under 1	Not available	2.96	3.48	.83	1.88	1.50	1.35	2.82	1.54
1–4		2.79	2.44	3.22	4.53	4.63	5.59	2.18	3.24
5–14		1.53	1.51	1.41	1.59	1.93	2.27	1.30	1.29
15–24		1.25	1.86	2.09	2.08	3.31	3.16	1.92	1.83
25–44		12.29	10.46	13.55	15.85	19.14	28.09	21.98	28.92
45–64		15.11	13.75	15.24	17.48	18.97	21.81	15.72	17.73
65–69		11.82	7.33	8.59	8.64	12.92	12.13	8.16	7.16
70 and over		11.73	11.53	12.92	14.07	16.54	18.72	12.38	12.46
Total[a]		9.57	9.27	10.19	11.15	13.29	15.18	9.95	10.08
Female									
Under 1	Not available	1.78	1.28	.77	3.45	2.30	1.79	2.46	1.06
1–4		3.23	2.45	2.90	4.10	4.06	5.25	2.31	2.68
5–14		2.16	1.76	1.93	2.10	2.18	2.31	1.40	1.41
15–24		2.97	3.25	3.26	4.21	4.32	4.55	3.15	3.08
25–44		9.90	8.71	9.43	10.11	11.72	12.97	6.86	6.78
45–64		11.29	9.26	9.86	11.60	12.30	13.92	8.52	8.62
65–69		14.95	12.40	12.81	13.88	14.72	16.91	11.19	10.07
70 and over		15.10	14.58	18.02	19.34	21.69	24.38	14.79	15.22
Total[a]		11.70	10.94	12.74	13.86	15.64	17.76	10.81	10.95

(a) Includes males and females of unstated age; for frequencies of these as eligible persons, see Table 14; for amounts paid for prescriptions issued to persons of unstated age, see Table 28; but note that persons of unreported age in eligibility records will not necessarily correspond to persons of unreported age in prescription-issuance records, so that meaningful rates for the unstated group as such cannot be computed.

TABLE 30

AMOUNT PAID BY SASKATCHEWAN PER PRESCRIPTION FOR PRESCRIPTIONS ISSUED TO LONG-TERM PUBLIC-ASSISTANCE BENEFICIARIES, BY SEX AND AGE OF BENEFICIARY, 1952–53 TO 1960–61

Year	Year Ending March 31								
	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$	$	$	$	$	$	$	$	$
Male									
Under 1	2.12	2.31	1.83	1.73	1.88	1.71	2.31	1.59	1.69
1–4	1.94	2.13	1.75	2.02	2.22	2.08	2.31	1.41	1.52
5–14	1.92	2.09	1.93	1.88	1.89	1.90	2.17	1.50	1.50
15–24	1.95	1.64	1.76	1.85	2.00	2.00	2.23	1.61	1.68
25–44	2.21	2.41	2.09	2.72	2.67	2.59	3.22	2.45	4.67
45–64	2.13	2.16	2.08	2.20	2.34	2.47	2.62	1.99	2.20
65–69	2.06	2.12	1.94	1.54	2.05	2.39	2.31	1.70	1.65
70 and over	2.02	2.19	1.92	2.03	2.11	2.18	2.26	1.66	1.64
Age unstated	–	1.98	2.02	1.92	1.43	3.00	6.17	1.00	1.52
Total	2.02	2.18	1.93	2.04	2.13	2.20	2.30	1.68	1.70
Female									
Under 1	1.63	1.87	1.90	1.85	2.05	1.96	2.00	1.59	1.49
1–4	1.97	2.20	1.77	2.01	2.08	1.89	2.35	1.56	1.46
5–14	2.01	2.13	1.76	1.84	1.92	1.88	2.00	1.31	1.44
15–24	1.88	2.06	1.83	1.73	2.00	1.90	1.98	1.59	1.50
25–44	2.10	2.24	1.95	1.95	1.99	2.18	2.30	1.47	1.50
45–64	1.98	2.16	1.89	1.97	2.07	2.11	2.26	1.49	1.52
65–69	2.00	2.12	1.88	1.93	2.08	2.12	2.30	1.52	1.44
70 and over	1.98	2.09	1.84	1.98	2.02	2.09	2.25	1.46	1.47
Age unstated	2.00	2.42	1.70	1.98	2.21	1.58	2.17	3.81	1.32
Total	1.99	2.11	1.85	1.97	2.03	2.09	2.25	1.47	1.47

ALBERTA

Coverage and Benefits

Pharmaceutical benefits supplied through retail outlets are restricted to the provision of drugs for the treatment or prevention of specified conditions and diseases. Within this context there are no limits on amounts prescribed and there is no requirement that a portion of the costs be shared by the recipient.

For about 30 years, the Department of Public Health has provided free insulin to persons with diabetes who pass a means test. The patient makes his application through his personal physician. Eligibility is not, therefore, restricted to persons receiving regular continuing public assistance.

In April 1959, this program was expanded to include the provision of an oral hypoglycaemic medication, tolbutamide, for eligible cases where its substitution for insulin is feasible.

At year-end in 1959 a total of 314 patients were receiving insulin and 81 tolbutamide. The figures for 1960 were 334 and 188 respectively.

The provincial government operates a rheumatic fever prophylaxis program which does not distinguish among recipients on the basis of a test of means or financial need. Hence, benefits are available to all eligible residents on the basis of medical necessity. The program began in June 1958. Any child under 18 years of age may receive continuous prophylactic treatment, up to 400,000 units of penicillin daily, if the physician can demonstrate in the child a history of rheumatic fever.

All 43,000 recipients of provincial public assistance are eligible to receive specified drugs from provincial out-patient clinics and, like the rest of the population, from hospitals when occupying hospital beds.

Drugs are provided for beneficiaries of the provincial program relating to rheumatoid arthritis. Patients are eligible for care until they reach 25 years of age and no test of means is involved.

Other Benefits Available

The general health services program covered 45,665 persons in 1959 and 48,851 in 1960, of whom 80 per cent were over 65 years of age. In almost all instances dependants are included with heads of households. The categories included are persons on old-age security and in receipt of a supplementary allowance and recipients of old-age assistance, mothers' allowance, widows' allowance, disabled persons' allowance, and blindness allowance. A distinctive feature in Alberta has been provision of medical care service for persons who were on old-age security but who, because they had incomes somewhat higher than the limit, did not qualify for supplemental assistance.

Benefits include comprehensive medical, surgical, and obstetrical care in home, office, and hospital, from a physician of the beneficiary's choice; complete dental care other than orthodontia and posterior bridgework (the government, in addition, contributes to payment for new dentures if these do not exceed $50 in price); glasses supplied on prescriptions written by oculists, or, subject to prior authorization, if written by optometrists; and chiropractic and chiropodist service, special nursing care, and physiotherapy.

Administrative Arrangements

Treatment services for public assistance recipients are administered as a health services program under the general direction of the Medical Services Division of the Department of Public Health. Health services for child wards are administered separately, by the provincial Department of Welfare. The departments pay for care provided on a fee-for-service basis. Local relief recipients receive care from their municipality of residence, which may recover 80 per cent of expenditures from the provincial welfare department. Transients and persons living in unorganized territory receive necessary care at provincial expense.

Basis of Payment and Financial Experience

Drugs supplied through retail outlets are paid for at current prices. Those available through out-patient clinics are provided at cost.

Separate data are not available on expenditures for pharmaceutical benefits.

BRITISH COLUMBIA

Coverage

Prescribed drugs are available to most persons receiving income maintenance allowances under public assistance programs pursuant to the Social Assistance Act and its regulations. The assistance categories are Old Age Security recipients who receive a supplemental allowance, Child Wards, and recipients of Blindness Allowance, Old Age Assistance, Mother's Allowance, Social Allowance (including employable unemployed), and Disabled Person's Allowance. Dependants are included for each group except those receiving disabled persons' allowances. The waiting period for eligibility among the social allowance (local relief) beneficiaries and their dependants is three months but retroactive payments can be made for drugs purchased during this period.[1]

[1] Persons not under the categorical programs but destitute and without residence status may have prescriptions filled for emergency drugs. An unsponsored immigrant, resident in Canada less than one year, may obtain reimbursement of expenditures for prescribed drugs from local social welfare offices.

The number of persons covered for the fiscal years 1954–55 to 1960–61 is shown below:

Year Ending March 31	*Number of Beneficiaries*
1955	68,513
1956	68,113
1957	66,421
1958	66,765
1959	68,585
1960	74,415
1961	82,932

Benefits

All the drugs on the British Columbia Formulary are provided free of charge. This formulary is the responsibility of the British Columbia Division of the Canadian Medical Association. About 90 per cent of the drugs are supplied through drugstores and the rest through the Provincial Pharmacy. This pharmacy is under control of the Department of Social Welfare and provides special drugs not included in the British Columbia Formulary as well as drugs required on a continuing basis by beneficiaries in private hospitals and nursing homes who have chronic conditions.[1]

In emergencies, these drugs may be obtained from local druggists.

Other Benefits Available

The medical services program provides for physicians' calls in home, office, and hospital, including surgery, specialist care, and diagnostic and consultative services.

The dental program provides for prophylactic or basic care for all child dependants under 13 years of age not covered by school dental programs. Prior authorization is not required for this service, but is for all other services requested by recipients.[2]

Appliances must be recommended by a doctor and those of a value above $15 must have prior approval from the provincial authority.

Complete optical services are available as part of the medical benefit. Lenses and frames are supplied through private companies at special rates on the prescription of oculists, and optometrists may supply lenses and frames if the

[1] Thus, beneficiaries with diabetes may have insulin, reasonably-priced syringes, and needles (but not automatic injection syringes or diabetic kits) from local druggists or from the provincial pharmacy, if a local druggist is not available.

[2] Emergency care does not require authorization for payment at time of service if it is subsequently established that the patient was eligible for service.

rates approved by the public authority are acceptable and if the person requiring service obtains a statement from a physician to the effect that the services of an optometrist only are required. Co-charges of unspecified amounts are levied but may be waived if financial hardship is demonstrated.

Other services include transportation for referred medical treatment, physiotherapy, and certain other services subject to prior authorization.

Administrative Arrangements

Each eligible family (i.e., head of household) receives a medical services identification card. This card is presented at the time medical, hospital or pharmaceutical services are required. (Provision of dental, optical and other services are not contingent upon possession of the card.) In the case of pharmaceutical benefits the card is the authority to the druggist to fill the prescription and to submit the account to the Department of Social Welfare for payment.

Requests for drugs not included on the Formulary must be sent by the beneficiary's physician to the provincial authority for authorization and payment.

Utilization Experience

There has been a steady annual increase in the number of prescriptions issued to beneficiaries. The figures for the fiscal years ending in 1956 to 1961 are shown below:

Year	*Provincial Pharmacy*	*Drugstores*	*Total*
1956	15,931	393,367	409,298
1957	19,572	398,355	417,927
1958	23,487	458,002	481,489
1959	30,140	534,352	564,492
1960	41,585	567,222	608,807
1961	43,437	621,973	665,410

A substantial proportion of the increase is due to greater numbers of beneficiaries. For the years 1956 to 1959 an important component of this increase was, as well, attributable to higher utilization. Since 1959, utilization per 1,000 welfare beneficiaries has levelled off, as shown below, with the most marked decline being revealed in purchases from drugstores.

Year	*Provincial Pharmacy*	*Drugstores*	*Total*
1956	233	5,775	6,009
1957	295	5,997	6,292
1958	352	6,860	7,212
1959	439	7,791	8,231
1960	559	7,622	8,181
1961	524	7,500	8,024

Basis of Payment and Financial Experience

The province pays 90 per cent of the cost of pharmaceutical benefits for all cases including those with, as well as without, municipal residence. The balance of 10 per cent is paid by municipalities, which contribute in proportion to population.

Costs of drugs issued to welfare beneficiaries have increased steadily each year since 1953, the most significant increases in recent years being in payments to retail outlets. The figures for the fiscal years ending March 31 are shown below (totals may not add, due to rounding):

Year	*Provincial Pharmacy*	*Drugstores*	*Total*
	$	$	$
1953	n.a.	n.a.	622,431
1954	n.a.	n.a.	657,841
1955	n.a.	n.a.	752,949
1956	70,354	823,003	893,357
1957	88,260	873,146	961,406
1958	113,842	992,311	1,106,153
1959	137,255	1,143,852	1,281,107
1960	184,438	1,307,700	1,492,138
1961	189,621	1,632,558	1,822,178

A reduction in volume of drugs per beneficiary, beginning in 1959, is reflected, as regards expenditures, only in the Provincial Pharmacy. In drugstore sales, per-beneficiary costs actually increased. The increases shown in the tabulation below, for selected fiscal years ending March 31, could be due to increased utilization per beneficiary or to higher prices for drugs, or a combination of both factors.

Year	*Provincial Pharmacy*	*Drugstores*	*Total*
	$	$	$
1955	n.a.	n.a.	10.99
1956	1.03	12.08	13.12
1957	1.33	13.15	14.47
1958	1.71	14.86	16.57
1959	2.00	16.68	18.68
1960	2.48	17.57	20.05
1961	2.29	19.69	21.97

Since the number of prescriptions per 1,000 beneficiaries has declined slightly in the last two years, the cost increase, apart from that arising from increases in the number of beneficiaries, must be attributable to failure to hold

down prices in drugstores.[1] This is revealed in the tabulation below, showing the cost per prescription of drugs issued during selected fiscal years. These prices have been declining steadily, if not markedly, in the Provincial Pharmacy since 1958. Possibly the success achieved in this type of outlet may be explained by the nature of the drugs dispensed and the practice of purchasing certain drugs in quantity. It may be noted that the large-volume purchases would be mainly of drugs sold by generic name.

Year	*Provincial Pharmacy*	*Drugstores*	*Total*
	$	$	$
1956	4.42	2.09	2.18
1957	4.51	2.19	2.30
1958	4.85	2.17	2.30
1959	4.55	2.14	2.27
1960	4.44	2.31	2.45
1961	4.37	2.62	2.74

[1] It is to be noted that cost per prescription of items supplied by the Provincial Pharmacy is substantially higher than of items purchased from drugstores by public-assistance beneficiaries.

CHAPTER V

VOLUNTARY PREPAYMENT PLANS

The problems encountered in attempting to provide prescribed drugs on an insurance basis have been difficult to resolve in Canada. Excessive patient demand, excessive prescribing, too many repeat prescriptions, the lack of historic plateau or benchmark of use or average prescription price – these are some of the difficulties cited to demonstrate that prepayment for pharmaceutical benefits is impracticable. It is not surprising, therefore, that insurance against expenditures for prescribed drugs became available in Canada only recently, in a few prototype schemes. There is no doubt that the impetus for experiment stems from the rising cost of drugs and clear indications that lack of money can be a barrier to necessary use.

It is difficult to arrive at a reliable estimate of the total number of persons who have subscribed to voluntary prepayment plans that provide insurance coverage against the cost of prescribed drugs. Commercial insurance companies sometimes offer "major medical" insurance which covers a broad range of health benefits, but in association with a deductible amount and a co-insurance factor. Limited drug coverage is usually provided under this major medical insurance.

More recently a few voluntary non-profit plans have widened inclusions to provide drug benefits. Among these is the plan of the Ontario Blue Cross. In July 1962 this agency introduced an indemnity-reimbursement plan, under which the subscriber pays the pharmacy and submits the receipt to Blue Cross for repayment. It is available with a deductible clause of $25 per year per family at a premium of 56 cents per month for a single person and $1.35 for a family. Alternatively, it is offered with a $50 per year per person deductible clause at 41 cents per month for a single person and $1.05 for a family. Another variation has a $50 per year per family deductible clause. Any of these varieties of the deductible clause may also be combined with a reimbursement ratio of 80 per cent instead of 100 per cent. Each of the alternatives covers all drugs and medicines which are prescribed by a medical practitioner and are not proprietary or patent medicines. The plan is available on a group basis only. No figures on numbers enrolled or on utilization are available.

Some physician-sponsored prepaid plans, especially in western Canada, are experimenting with extended benefit schemes that are intended as riders to existing service programs. In all instances the extended benefits are provided on a reimbursement principle.

PRESCRIPTION SERVICES INCORPORATED

The only known voluntary insurance plan of a service nature to offer drug benefits on a prepaid basis is Prescription Services Incorporated of Windsor, Ontario, which operates the Green Shield Prescription Plan. It was incorporated, as a non-profit corporation without share capital, in July 1957 following four years of study by a group of members of the Essex County Pharmacists' Association. The Association sponsors and approves the plan. Statements of intentions include, as one aim, assistance to members in meeting the over-all cost to them of drugs, which were increasingly being used in the treatment of disease and frequently were expensive. Another aim was to sustain the professional aspect of the retail pharmacy business in the face of the growing tendency to sell non-prescription items in drugstores. Prepayment or similar arrangements would also help, it was believed, to ease the problem of obtaining and retaining skilled professional help in a low profit-ratio situation, and to meet competition in the market place from discount stores, discount pharmacies, and mail-order drugstores.

The operational aspects of this plan, as regards coverage, utilization, and costs, are of special interest to observers in health care economics. The program marked the first occasion in Canada that a consumer group was covered for hospital, medical, and drug benefits. Moreover, it was anticipated that the new plan might have important implications for welfare services, welfare clinics, and the incidence and prevalence of communicable diseases.

It is important to note the presence of Windsor Medical Service in the same area. This physician-sponsored prepayment plan finances most of the cost of comprehensive physicians' services, and covers about 90 per cent of the population of metropolitan Windsor. Thus in effect most of the population has easy access to the services of a physician without any economic deterrent. Therapy by means of a prescribed drug usually originates from a visit to a physician; hence, the presence of Windsor Medical Service would be expected to affect the volume and per capita utilization of drugs prescribed in Windsor, quite apart from other factors.

Organization

Members of the corporation must be legally qualified as pharmacists in Ontario. Each member has but one vote, no matter how many drugstores he owns; and not more than one vote is allowed for one drugstore, no matter how many owners it has. The president, who is also the pharmaceutical director, is paid a nominal stipend of $100 per month; the other four directors are unpaid. All five directors must be members of the corporation. The original 77 members (all but seven of the pharmacies in Essex County became members at the outset) loaned the corporation $150 each for ten years without interest, to provide an underwriting fund (this loan requirement was later dropped). The plan now operates throughout Ontario and, as at May 1962, had nearly 650 pharmacy-members. In addition to the $11,550 from the original loans, the corporation has also had a donation of $3,000 from the Ontario Retail Pharmacists' Association and some $18,000 in donations from pharmacies. Without the loans and donations the plan's operation in its formative years would have been at a loss.

Coverage and Enrolment

The plan is available on a group basis only, to residents of Ontario. Groups may be persons with a common employer or members of a service or fraternal organization. In groups of five to nine persons, all must enrol; of ten to thirteen, ten must enrol; and in groups of fourteen or more, 75 per cent must join the plan. There are no medical examinations or enrolment fees required and no age limits are placed on the subscriber or spouse.

Newborn children are covered from birth if they are enrolled within 30 days of birth. Coverage is provided for unmarried children as dependants until their nineteenth birthdays and for unmarried adults who are allowable as dependants under the Income Tax Act and are between the ages of 19 and 60 when enrolled. Members leaving one group are allowed to transfer to another. If a group is no longer available to them, their membership may be continued on a pay-direct basis, at a slightly increased premium, provided that they apply within 30 days of leaving the group. A spouse, in the event of death, divorce, or legal separation, may apply within 30 days for continuance of coverage, as may the wife of a member who has enlisted in the Armed Forces.

During the year ending May 1960 enrolment averaged 615 in the main plan. A special group for retired employees of an automobile manufacturer operated for only the last eight months of that year; its enrolment averaged 354 during that period. Figures by age and sex are shown in Table 31.

TABLE 31

AVERAGE NUMBER OF PERSONS[a] INSURED UNDER PRESCRIPTION SERVICES INCORPORATED, BY SEX AND AGE, YEARS ENDING MAY 31, 1959 AND 1960

Group	Age in Years	Males		Females		Total	
		1959	1960	1959	1960	1959	1960
Non-retired:	0–5	43	46	25	32	68	78
	6–18	61	66	66	66	127	132
	19–44	110	102	135	133	245	235
	45–64	66	68	85	87	151	155
	65 or more	6	10	3	5	9	15
	All Ages[b]	287	291	314	324	601	615
Retired:	All Ages	–	208	–	146	–	354
Both groups:	All Ages	–	499	–	470	–	969

(a) The sum of the numbers of persons of each sex insured in each month divided by the number of months that the plan operated (12 for the non-retired group in each year; 8 for the retired group in 1960; the retired-group plan began to operate on October 1, 1959).

(b) Items may not add to totals, because of rounding.

Source: *Prescription Services Inc., June 1958 — May 1959, June 1959 — May 1960 Analysis*, School of Public Health, Bureau of Public Health Economics, University of Michigan, Ann Arbor, Michigan, U.S.A., Tables 3–A and 3–AR.

Method of Payment to Member Pharmacists

Subscribers are issued with cards of identification to show to pharmacists when purchasing insured drugs. The pharmacist collects 35 cents from the subscriber and bills the Green Shield plan. The plan deducts 10 per cent of the charged price (i.e., including the 35 cents paid by the subscriber) for overhead and a second 10 per cent of the charged price "to assist the plan in the formative period".

Thus a prescribed drug for which the charged price was $5.00 would be accounted for as follows:

Charged price by pharmacy	$5.00
Paid by subscriber to pharmacy	.35
Overhead (10% of $5.00)[1]	.50
Formative-period assistance (10% of $5.00)[1]	.50
Paid by plan to pharmacy	$3.65

Officers of the plan have indicated that they intend to cease making the second 10 per cent deduction when the plan becomes self-sustaining.

Under the contract with Prescription Services Incorporated, a member-pharmacy must exempt the corporation from malpractice liability, must not charge patients purchasing insured drugs anything except the 35-cent "non-abuse" fee, and must follow the corporation's pricing schedule.

Benefits

Upon presentation of the subscriber's membership card and 35 cents for each prescription, participating pharmacists make the following services available to insured persons:

1. Prescriptions written by a licensed medical practitioner or dentist which can be dispensed by the pharmacy.
2. One or two repeats of prescriptions if specified in the original prescription and if in the opinion of the member-pharmacy a reasonable period has elapsed since the prescription was last dispensed.

The plan does not cover prescriptions for which compensation is provided by the Workmen's Compensation Board or any government agency, certain specified appliances and medicines,[2] or additional amounts of new prescriptions.[3] Also

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[1] Note that the 10% deductions are calculated on the original total charged price.

[2] These exclusions are all vitamins whether or not sold on prescription, all patent medicines, canes, crutches, wheelchairs or conveyances, braces, splints, bandages, dressings, trusses, abdominal supports, contraceptives, dietary supplements, medicines normally sold without prescription, insulin, diabetic supplies, parenteral supplies, biological sera, and blood or blood plasma.

[3] Beyond that which is contained in the smallest original package listed by the manufacturer; or any amount beyond that required for 34 days, continual treatment unless covered by the provision for repeat prescriptions.

excluded are prescriptions written by optometrists, chiropodists, chiropractors, and osteopaths. No prescription is covered within 30 days of enrolment unless the patient is a newborn infant dependant.

Although the plan has contracts with member-pharmacists only, if an insured person requires drugs during the first two months of a temporary absence from the area where member-pharmacies are located, he must pay cash for his drugs but will be reimbursed if he submits to the plan an itemized account and a copy of the prescription.

Utilization

The plan endeavours to curb utilization through three devices, the 35-cent payment by the subscriber, the requirement to supply no more than 34 days' dosage, and the requirement that only the smallest original package will be supplied. In its brief, the plan states, "(f) the 34 day limitation clause is a quantity limitation imposed to avoid stock piling and this, together with the 35-cent fee has been very successful in avoiding abuse; (g) the smallest original package clause is included to prevent a subscriber from getting excessive amounts of medication which could then be converted into cash for resale".

Figures on the amount of use made of the plan are available for the twelve months preceding and the twelve months following June 1, 1959, the date of a major increase in premium rates.

TABLE 32

AVERAGE NUMBER OF PRESCRIPTIONS ISSUED PER MONTH PER 100 PERSONS[a] INSURED UNDER PRESCRIPTION SERVICES INCORPORATED, BY SEX AND AGE OF PATIENT, YEARS ENDING MAY 31, 1959 AND 1960

Group	Age in Years	Males		Females	
		1959	1960	1959	1960
Non-retired:	0–5	33	26	21	27
	6–18	12	10	18	13
	19–44	18	18	58	48
	45–64	55	57	82	74
	65 or more	121[b]	29[b]	21[b]	55[b]
	All Ages	30	27	53	46
Retired:.....	All Ages	–	54	–	67
Both groups:.....	All Ages	–	36	–	51

(a) Figures for "Non-retired" and "Retired" were adapted (by multiplying by 100) from Tables 3 and 3–R in the source cited below. Those for "Both groups" were calculated as averages of the preceding two weighted proportionately to their coverage-exposure measured in person-months and recorded in Tables 3–A and 3–AR in the same source.

(b) Based on 10 or less enrolees.

Source: *Prescription Services Inc., June 1958 – May 1959, June 1959 – May 1960 Analysis*, School of Public Health, Bureau of Public Health Economics, University of Michigan, Ann Arbor, Michigan, U.S.A., Tables 3, 3–R, 3–A, and 3–AR.

The number of prescriptions paid for under the plan per 100 male subscribers (Table 32) fell from 30 in the year ending May 31, 1959 (hereafter referred to as

"1959") to 27 in the year June 1, 1959 to May 31, 1960 (hereafter "1960") among the non-retired members and was 54 in 1960 in the retired group. The corresponding female rate went from 53 to 46 in the non-retired group and was 67 among the retired group.[1]

Males under 19 had reduced utilization rates in 1960; men from 19 to 44 had no change; and men from 45 to 64 had a slight increase. All female age groups except 0–5, which rose sharply,[2] had lower rates in 1960 than the year before. The female age-group rates were generally higher than the male except, notably, in 1959 for children under six; the male rate in that group was 33 compared with 21 for females.

TABLE 33

AVERAGE PRESCRIPTION CHARGES PAID BY PRESCRIPTION SERVICES INCORPORATED PER MONTH, PER PERSON INSURED,[(a)] BY SEX AND AGE OF PATIENT, YEARS ENDING MAY 31, 1959 AND 1960

Group	Age in Years	Males		Females	
		1959	1960	1959	1960
		$	$	$	$
Non-retired:	0–5	1.02	.99	.57	.94
	6–18	.34	.31	.65	.43
	19–44	.63	.71	1.99	1.91
	45–64	2.40	2.47	3.30	3.12
	65 or more	3.62[(b)]	1.39[(b)]	.34[(b)]	2.46[(b)]
	All Ages	1.10	1.10	1.94	1.85
Retired:.....	All Ages	–	2.37	–	2.38
Both groups:.....	All Ages	–	1.51	–	1.97

(a) Figures for "Non-retired" and "Retired" were taken directly from Tables 3 and 3–R in the source cited below. Those for "Both groups" were calculated as averages of the preceding two weighted proportionately to their coverage-exposure measured in person-months and recorded in Tables 3–A and 3–AR in the same source.

(b) Based on 10 or less enrolees.

Source: *Prescription Services Inc., June 1958 – May 1959, June 1959 – May 1960 Analysis* School of Public Health, Bureau of Public Health Economics. University of Michigan, Ann Arbor, Michigan, U.S.A., Tables 3, 3–R, 3–A, and 3–AR.

For every person-month of insurance the plan paid the same amount ($1.10) for male non-retired enrolees in both years, while the female rate, though substantially higher, fell between 1959 and 1960 (Table 33). The age-sex data here reveal an interesting contrast. Whereas the male cost-per-person-month fell in the age groups 0–5 and 6–18 and rose in the 19–44 and 45–64 groups, the female cost

[1] Enrolment figures for the non-retired groups are shown in Table 31. They rose slightly between 1959 and 1960. The age distributions of each sex were virtually unchanged in 1960. The group for retired employees of the automobile manufacturer was set up on October 1, 1959.

[2] The numbers in the non-retired group aged 65 or more were too small for the rates calculated from them in either sex to be significant.

rose in the 0–5 group and fell in the three older groups. The 45–64 group in each sex had a cost ratio substantially above that of all younger groups in both years and also somewhat above that of the retired group.

Charges paid by the plan for each prescription tend to increase with advancing age (Table 34) although the charge for prescriptions for children under 6 years was higher than the charge when the age was between 6 and 18, in both 1959 and 1960 for males and in 1960 for females. Also, the unit cost was higher in 1960 for non-retired females aged 45–64 than for the females in the retired group.

TABLE 34

AVERAGE CHARGE[a] PER PRESCRIPTION PAID BY PRESCRIPTION SERVICES INCORPORATED, BY SEX AND AGE OF PATIENT, YEARS ENDING MAY 31, 1959 AND 1960

Group	Age in Years	Males		Females	
		1959	1960	1959	1960
		$	$	$	$
Non-retired:	0–5	3.09	3.81	2.71	3.48
	6–18	2.83	3.10	3.61	3.31
	19–44	3.50	3.94	3.43	3.98
	45–64	4.36	4.33	4.02	4.22
	65 or more	2.99[b]	4.79[b]	1.62[b]	4.47[b]
	All Ages	3.67	4.07	3.66	4.02
Retired:.....	All Ages	–	4.39	–	3.55
Both groups:	All Ages	–	4.19	–	3.86

[a] Calculated by dividing the figures in Table 33 by the figures in Table 32, multiplied by 100.

[b] Based on 10 or less enrolees.

Source: Table 32 and 33.

Finances

Officers of Prescription Services Incorporated have advanced the view that the 35-cent charge to purchasers of prescriptions and the 34-day limit on amounts supplied have prevented abuse, as have the prohibitions on various types of drugs. Coverage, they feel, may be extended to some of these drugs if enrolment becomes widespread, but they do not expect to cover vitamins or patent medicines.

The initial premium scale (95¢ per adult; 65¢, 55¢ and 45¢ for the first three children; other children free) was intended to produce an average premium of 85

cents[1] plus 10 per cent for overhead, or 93.5 cents overall; instead, it provided only 82 cents per person. For several cited reasons, this proved insufficient. First utilization rose rapidly. Second, the Sickness Survey, used in the calculation of the 85 cents, included Eskimos, Indians and people in the hinterland whose drugs are usually dispensed by physicians, and who often either receive no medical service or cannot obtain drugs because of distance. Third, urban residents also use far more prescribed drugs than others (their rate being double the 2.3[2] quoted by the plan as having been estimated by the Sickness Survey): the effect of their joining the prepaid plan was to triple the number of prescriptions per person per year. Fourth, sex and age make highly significant differences in utilization; the earlier estimate, having ignored these factors, was subject to error.

Moreover, as already suggested, the operations of Windsor Medical Service, the prepayment plan for comprehensive physicians' services, have had an important impact upon drug utilization. This medical plan, covering about 90 per cent of the population in the area, provides ready access to physicians' services in the home and office without an economic deterrent. Therapy with a prescription drug is usually, as previously noted, predicated on a visit to a physician, at least for the original prescription: it is more than probable, therefore, that prescribing patterns in Windsor have been importantly affected by the presence of the medical plan.

Subsequent to making the preliminary calculations, Prescription Services Incorporated estimated that the average premium rate per person must rise to at least $1.54, this being the amount of claims per person-month during the year June 1958 to May 1959. New rates, of $1.90 per adult and 65 cents per child for the first three children, were imposed in June 1959. Enrolment fell by 17 per cent, but the loss was apparently not permanent because the average enrolment during the year after the increase was 615, or 14 more than during the year before it.

In practice, instead of the anticipated $1.54 per person, average monthly premiums amounted to $1.43 during the year ending in May 1960. However, claims per person per month were $1.49. Thus the plan's loss per person per month was cut from 73 cents to 6 cents. Furthermore, this substantial loss-reduction occurred in the face of a 25-cents-per-prescription increase in fees allowed to pharmacists one month after the new premiums went into effect.

Future Plans and Prospects

Prescription Service Incorporated now (May 1962) has 1,500 members including retired persons and has not widely solicited new members. Officers anticipate rapid increases in the near future, because the plan is being incorporated into

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[1] The 85 cents was calculated by the plan as follows: according to the Canadian Sickness Survey of 1950–51 Canadians spent 36 cents per month for prescriptions; the 1958 cost of living was 119% of the 1950–51; and removal of the economic barrier would, it was assumed, double utilization; and 36 x 1.19 x 2 = 85. (The result of the calculation is actually 86.) (NOTE: The published version of the Sickness Survey indicates that Canadians spent only 27.4 cents per month per person in 1951, not 36 cents.)

[2] This must have been an unpublished estimate. It does not appear in the publications relating to the Survey.

labour-management contracts as a fringe benefit. Expansion, it is believed, will hasten self-sufficiency, partly because new memberships arising from such labour-management negotiations tend to carry an actuarially more satisfactory proportion of good risks (because when less than 100 per cent of a group enrol, the good risks tend to stay out). The plan foresees a tenfold increase, which would give it, at $1.50 per person per month, $270,000 per year. This in turn would provide $27,000 for overhead. The corporation feels that the plan in its ultimate form can be extended over all of Ontario or even all of Canada.

In the appraisal of this Green Shield venture, several intriguing features must be noted.

One interesting aspect is the apparently continued support by most retail pharmacists in the area, notwithstanding the markdown from the list price. Presumably there is an increased turnover of drugs, especially among the smaller pharmacies, and the plan therefore helps them meet competition from discount centres and supermarkets.

Another interesting aspect is that the subscriber co-charge at time of service is virtually nominal. The officers of the plan attribute much of their success in controlling levels of utilization to the imposition of this deterrent fee. Such an assumption of causal relationship must, however, be questioned. The levying of co-charges for drugs on aged and near-indigent beneficiaries of the public assistance program in Saskatchewan did not lead to major reductions in utilization even though the deterrent levy was more burdensome than the 35-cent fee imposed by Prescription Services Incorporated. Clearly, other factors may be more important in affecting utilization patterns, and the deterrent fee may be mainly a nuisance charge.

A third interesting aspect is that the co-charge is calculated as a flat amount and not as a proportion. The nominal size of the flat figure probably means that it has little effect one way or another in determining frequency of purchase. Its effect might be even less marked, with respect to high-priced prescriptions. As the price of an item goes up, the contribution of the subscriber of course diminishes relative to the listed price: on a $12 prescription, for example, his out-of-pocket expense at time of service would be less than 3 per cent, but would be about 17 per cent on a $2 drug purchase.

This experience contrasts sharply with, say, the plan for federal public service employees in which costs to the member at time of service (after the annual deductible provision is satisfied) are directly proportional to the total price of the drug.

A final aspect to note is the smallness of the subscriber-membership of Prescription Services Incorporated, when one considers the number of pharmacist-members, the relatively minor deterrents, the potential area to be served, the social structure and occupational patterns of the population, and the widespread membership by potential subscribers in medical care insurance plans.

The reasons can only be surmised at this stage. If the corporation anticipates substantial increases as a result of incorporating the plan into fringe benefits arrived at through labour-management negotiations, a fair degree of elasticity must be assumed. This is to say, the fact of low membership may not necessarily derive from factors inherent in the structure of the plan, but may derive from outside factors which are not readily responsive to administrative manipulation. Premiums may be too high for the bulk of the population relative to the amount of prescribed drugs they feel they would purchase. Or the population, made up largely of industrial workers, seasonal workers, and recent immigrants, may not be receptive to a plan such as this unless it is supported by a sustained (and expensive) promotional and selling campaign. Moreover, the structural make-up of the untapped population may differ markedly from that of the groups enrolled so far.

Taking these factors together, it may be said that there is no assurance that Prescription Services Incorporated in its present form will increase membership significantly within its operational area. Nor is there assurance that other communities across Canada will logically adopt similar prepayment schemes. It may be that the true prototype for prescription prepayment has yet to appear.

CHAPTER VI

PROVISION OF DRUGS UNDER HEALTH INSURANCE PROGRAMS IN VARIOUS COUNTRIES

GREAT BRITAIN

Drugs are among the benefits provided by the National Health Service. Provision of pharmaceutical services is one of the responsibilities of the 138 Executive Councils, one for each county council and county borough.

Everyone who uses the general-practitioner part of the Service is covered for pharmaceutical benefits. These benefits include all drugs and medicines and certain surgical appliances that are prescribed by a doctor and are medically necessary. The patient pays a charge, now set at two shillings, for almost every pharmaceutical item.

The National Health Service is financed out of general revenues and by weekly contributions from employers and employees. The weekly contributions cover 16 per cent of total amount required.

Practically all retail pharmacists (chemists) have contracted to provide insured pharmaceutical services. They are allowed a mark-up averaging 18 per cent of the wholesale price. They are also permitted to charge a dispensing fee of about 17.1 pence a prescription, and to charge for containers.

An extra charge may be rendered for services provided outside normal hours of business. The pharmacist sends his account to the pricing bureau at regular intervals and is paid for his allowable charges.

Table 35 shows the amounts expended, by the central government and by individuals, for these benefits since the inception of the National Health Service.

TABLE 35

GROSS EXPENDITURE BY THE CENTRAL GOVERNMENT AND BY PERSONS FOR PHARMACEUTICAL SERVICES UNDER THE NATIONAL HEALTH SERVICE, YEARS ENDED 31 MARCH, 1949 TO 1961, GREAT BRITAIN

Year Ended 31 March	Gross Expenditure for Pharmaceutical Services		Year Ended 31 March	Gross Expenditure for Pharmaceutical Services	
	By Central Government	By Persons		By Central Government	By Persons
	£'000,000	£'000,000		£'000,000	£'000,000
1949[a]	17.9	—	1956	51.6	8.0
1950	36.6	—	1957	60.6	9.0
1951	40.5	—	1958	61.7	12.5
1952	52.5	—	1959	67.2	12.3
1953	49.7	5.4	1960	74.9	13.0
1954	46.4	7.6	1961[b]	82.6	13.5
1955	49.7	7.3			

(a) Period 5 July 1948 to 31 March 1949.
(b) Estimated.

AUSTRALIA

The program of pharmaceutical benefits in Australia is administered by the Commonwealth Government. All patients of medical practitioners in Australia are eligible to receive the pharmaceutical benefits. There is an extensive list of drugs that includes 70 to 80 per cent of all prescriptions written by doctors. There is a charge of 5 shillings a prescription that the patient must pay the pharmacist (chemist); pensioners are exempt from this charge.

The Australian government pays its share of the cost of pharmaceutical benefits out of general revenue. Pharmacists enter into agreements with the government allowing them a one-third mark-up on the wholesale price. There are also allowances for containers and for waste due to supplying unusual quantities, and there is a dispensing fee paid to the pharmacist. The Commonwealth Department of Health pays the pharmacist the total price of the prescription less the five shillings paid by the patient.

Following are the amounts expended by the Commonwealth Government for pharmaceutical benefits, all figures being for fiscal years ended 30 June and being in thousands of Australian pounds: 1951, 2,930; 1952, 7,685; 1953, 7,216; 1954, 9,230; 1955, 10,740; 1956, 11,888; 1957, 11,717; 1958, 15,033; 1959, 20,972; 1960, 24,335; 1961, 27,881; and 1962, 35,189. Patient payments in the year ended 30 June 1962 were £A6,500,000; these payments began in March, 1960, but their amount during the fiscal years ended in 1960 and 1961 is not known.

NEW ZEALAND

Pharmaceutical benefits are among the health benefits provided under the Social Security Act of New Zealand. The pharmaceutical benefits program is administered by the Clinical Services Division of the Public Health Department.

All residents of New Zealand are entitled to receive drug treatment under the program, unless they are entitled to recover the cost as compensation for damages. There is an extensive list of drugs, medicines, and appliances, that are available upon a physician's order without any charge to the patient. Most commonly used drugs are benefits under the program.

The Health Benefits program is financed by a tax on earnings of one shilling and sixpence in the pound. This tax is used to finance a cash-benefits program also, and the health benefits use about one-third of the funds available. Prescribed items are provided by approved pharmacies that have entered into contracts with the Minister of Health. The pharmacist (chemist) is allowed a general 50 per cent mark-up on the wholesale price. The mark-up is at a lower rate on expensive items. The final price paid to the pharmacist also includes a dispensing fee ranging from one shilling to three shillings sixpence, and a container allowance.

The following table sets out the amounts of pharmaceutical benefits paid since 1953–54.

TABLE 36

PHARMACEUTICAL BENEFITS FROM THE NEW ZEALAND SOCIAL SECURITY FUND, FINANCIAL YEARS ENDING MARCH 31, 1953–54 TO 1961–62

Year	Chemists	Medical Practitioners	Institutions	Total
	£	£	£	£
1953–54	2,847,919	10,267	61,343	2,919,620
1954–55	2,952,269	10,068	84,994	3,047,331
1955–56	3,949,164	15,951	74,030	4,039,145
1956–57	4,475,606	17,934	79,017	4,572,557
1957–58	4,353,752	22,463	90,326	4,466,541
1958–59	4,973,558	27,274	111,511	5,112,343
1959–60	5,787,684	32,126	136,492	5,956,302
1960–61	6,605,889	48,736	143,532	6,798,157
1961–62	7,433,732	73,937	170,669	7,678,338

SWEDEN

The social security program in Sweden, of which health services, and in turn pharmaceutical benefits, form parts, is under the general direction of the National Insurance Board. The National Medical Board is responsible for the health services program and advises the National Insurance Board on it. The health benefits program is managed by 660 local funds, that are required to employ medical advisers. It is compulsory, and all Swedish citizens are insured. Foreigners resident in Sweden may participate in the program by registering themselves. The list of drugs and biologicals that are insured benefits is divided into two parts. The first is a list of 18 diseases with the approved drugs and biologicals associated with each of the diseases. These drugs are provided to patients free of charge. The second part of the list is fairly extensive and contains most

essential medicines. For these drugs the individual pays the first three crowns a prescription and half of the remainder of the cost.

The health benefits program, like other social security in Sweden, is supported by employee, employer, and State contributions in proportions of 50 per cent, 25 per cent and 25 per cent. The rate of contribution payable by the insured person depends on his class of income and, to some extent, varies with the sick-fund of which he is a member. The dispensed price of items included as pharmaceutical benefits is negotiated with representatives of the pharmacists' association. There is a formula that allows for a profit to the pharmacist and the resulting price is included in the drug tariff list. The pharmacist submits his bill every month, and after it is priced by the representatives of the National Insurance Board, he is paid the amount owing him.

NORWAY

The health benefits program in Norway is administered by the National Insurance Institute in co-operation with the Directorate of Health Services, both of which are branches of the Ministry of Social Affairs. In most of the local communes fairly autonomous health insurance agencies operate. Decentralization is stressed. Co-ordination of the agencies and over-all direction are provided by the National Insurance Institute. The Norwegian Health Insurance Act states that "every person who is resident in Norway shall be insured under this Act", so that health benefits are available to all residents. Every person is insured either as a member or a family member; family members are the spouse of a member and his children under eighteen years of age and who are earning less than 1,000 crowns a year. There is a "drug tariff" which sets out a list of twenty-four kinds of disease for which the associated drugs and biologicals are included as pharmaceutical benefits. The diseases are those which usually require prolonged therapy of an expensive nature. It was estimated that pharmaceutical benefits accounted for about 10 per cent of the total sales of pharmacies to individuals.

The health benefits and cash sickness benefits programs are financed by funds from individuals and from the State. The employee pays 100 kroner a month, the employer, 60 kroner, the national government, 20 kroner, and the commune, 25 kroner for a total of 205 kroner per month per member. All pharmacies in Norway are licensed by the government and participate in the pharmaceutical benefits program. They are considered to be the major source of supply of drugs and biologicals, not only to individuals, but also to hospitals and doctors. The pharmacist is allowed a mark-up on the wholesale price varying from 70 to 30 per cent depending on the cost of the item to him. The costs of dispensing are taken into consideration in calculating the price that is included in the drug tariff list available to the pharmacist. The pharmacist makes a regular claim to the social security agency for the amount owed him under the pharmaceutical benefits program.

DENMARK

The health insurance program in Denmark, which includes pharmaceutical benefits, is directed by the Health Insurance Services of the national government. There are about 1,600 local health insurance funds. The funds sign an agreement

with the Health Insurance Services and elect an Executive Committee to represent the local government authority. The Excutive Committee and the officers employed by the funds implement the program. Active participation in the health insurance program is voluntary, although passive participation is obligatory for everyone over the age of 16. Although ineligible for benefits, passive participants have the right to transfer to active membership at any time, regardless of age or health. When a passive member transfers to active membership, there is a waiting period of six months before he is entitled to health benefits. Children under the age of 16 are covered by their parents' membership. Eighty-nine per cent of the population is said to be actively insured. The insurance in Denmark is 70 per cent supported by member contributions and 30 per cent supported by the State.

Pharmaceutical benefits cover 800 items set out in the drug tariff list. The selling price of pharmaceuticals is worked out with the pharmacists' association and represents the cost of the item plus a reasonable profit. The insured individual pays the pharmacist and then is reimbursed by the plan for three-quarters of the purchase price.

Amounts paid by the benefit associations in recent years are set out in the following table. There are two classes of association, government-recognized and government-controlled.

TABLE 37

TOTAL EXPENDITURE BY DANISH SICK-BENEFIT ASSOCIATIONS FOR MEDICINES AND DRUGS, 1950–1959, IN THOUSANDS OF KRONER

Year	Government-recognized Associations	Government-controlled Associations	Total
1950	19,987	540	20,827
1951	19,359	546	19,905
1952	18,873	535	19,408
1953	21,948	587	22,535
1954	24,070	647	24,717
1955	26,319	703	27,022
1956	29,803	792	30,595
1957	36,330	708	37,038
1958	41,371	751	42,122
1959	44,463	831	45,294

THE NETHERLANDS

The Sickness Insurance Board of The Netherlands is part of the Ministry of Social Affairs and Public Health and administers the health benefits program. The more than 600 local sick-funds in The Netherlands operate under agreements with the Board, but with considerable freedom. The health-benefits program is divided into voluntary and compulsory programs. The compulsory program applies to employed persons earning less than 7,450 guilders per annum. This group includes most employees and their dependants, and certain categories of social assistance cases that qualify under a means test. Other people are entitled to take out

voluntary insurance. There is a separate scheme for the aged. In 1960, 8,094,000 persons, or 70.8 per cent of the population, were insured for health benefits.

The health benefits program, and other social security arrangements, are financed by a contribution of about 4.8 per cent of his wages from the employee and an equal contribution from the employer. The government pays a subsidy to reduce premiums for persons receiving old-age insurance and other low-income groups.

A drug tariff list sets out the drugs and pharmaceuticals that are benefits under the program. This list is divided into three parts, the "white" list containing drugs that may be prescribed by any doctor, the "red" for specialists in hospitals, and the "blue" for doctors dispensing drugs from their own offices. If a doctor wishes to prescribe a drug that is not on his list he must obtain the prior approval of a medical adviser of the insurance fund. There is no direct charge to a person for the pharmaceutical benefit.

The pharmacist contracts with sickness funds in his area to provide pharmaceutical benefits. He is paid the sum of an annual capitation fee for each beneficiary registered with him, a dispensing fee for each sale of a separately packaged medicine, and the cost of the drugs, biologicals, and dressings he has supplied.

About one-third of general practitioners dispense drugs. Such a doctor is paid for his participation in the pharmaceutical-benefits program by a capitation fee for each person registered with him, and the cost price for those medicines that he is entitled to supply.

Surveys conducted by the government of The Netherlands revealed that the total sales of drugs with and without doctors' prescriptions amounted to 90,000,000 florins in 1953 and 149,600,000 florins in 1958.

The expenditures of the sick-funds for medicines and dressings over the period 1950–1960 are set out in the following table.

TABLE 38

SICK-FUNDS' EXPENDITURES FOR MEDICINES AND DRESSINGS, THE NETHERLANDS, 1950–1960, BY CATEGORY OF INSURANCE, IN THOUSANDS OF FLORINS

Year	Compulsory Insurance	Old-aged Insurance	Voluntary Insurance	Total
1950	24,947	–	14,118	39,065
1951	33,384	–	12,624	46,008
1952	34,726	–	12,210	46,936
1953	36,412	–	12,324	48,736
1954	39,587	–	12,948	52,535
1955	45,631	–	14,634	60,265
1956	48,882	–	15,590	64,472
1957	45,209	9,775	15,692	70,676
1958	50,644	11,988	16,923	79,555
1959	54,971	14,068	18,018	87,057
1960	61,438	15,853	19,598	96,889

FRANCE

The health benefits program in France is administered by the Social Security Directorate of the Ministry of Labour and Social Security. There are many local and regional social security funds; these are co-ordinated under a national social security fund. The program employs local, regional, and national medical advisers. It is compulsory for most employed persons and covers their dependants also. The "general scheme" covers about half the population. Other separate programs provide benefits for special groups such as miners, railway men, and civil servants, amounting to another sixth of the population. Old-age and retirement pensioners and persons drawing a widower's or widow's pension, and their dependants, are entitled to health benefits without the payment of premiums.

There is an extensive drug-tariff list which sets out the drugs that are benefits. For prescriptions compounded by the pharmacist, the patient pays for the medicine and then is entitled to a reimbursement of 80 per cent of the price. For a specialty medicine, he is ordinarily reimbursed 70 per cent of the price. If the specialty item could not be replaced by drugs compounded by the pharmacist, the patient is reimbursed 90 per cent of the price. Furthermore, maternity patients, patients with long-term illness, or certain specified diseases, and patients undergoing certain expensive procedures qualify for 100 per cent reimbursement of pharmaceutical expenses.

In France, the health benefits program and other social security arrangements are financed by contributions of 6 per cent of the first 700 new francs of wages a month from the employee and 12½ per cent from the employer. The government makes no contribution to the program. The price of drugs charged by retail pharmacists is made up of the wholesale price, a dispensing fee, and a reasonable allowance for profit.

Pharmaceutical reimbursements in 1959 totalled 778,942,280 n.f. and the deterrent charges (including a 30 n.f. deductible provision imposed for the period 30 December 1958 to 30 June 1959 only) amounted to 84,270,380 n.f. Thus the plan paid 90.2 per cent of the total price.

FEDERAL REPUBLIC OF GERMANY

The health benefits program in West Germany is administered by the Social Security section of the Ministry of Labour and Social Security and, locally, by over 2,000 non-profit funds, or societies, that function under agreements with the social-security agency. The funds employ medical advisers to confirm the need for service. The health benefits program is compulsory for employees with an income of less than 7,920 deutschemarks a year, certain self-employed persons, and those receiving invalidity or old-age pensions from the social-insurance scheme. Public employees, miners, seamen, and railwaymen, are covered by special funds and are not under the general plan. Under the combined pattern of compulsory-voluntary insurance 85 per cent of the population are covered. Of this total, four-fifths are under the compulsory program. A member's dependants are also covered.

There is an unofficial list of prescribed drugs that are included as benefits. The doctor is free to prescribe the drugs and biologicals that he considers necessary but payment is subject to approval by the insurance fund. There is a direct charge to the patient of 0.50 deutschemark a prescription. Cosmetics, tonics, and the like are excluded from the pharmaceutical-benefit program.

Health benefits and other social-security arrangements are financed by contributions from employees and employers, the rate being set by each local fund. If the employee earns less than 65 deutschemarks per month or 15 deutschemarks per week, the employer is the sole contributor. If earnings are above this amount, the employer and employee each pay half, the total of both contributions varying from 5 to 10 per cent of the earnings of the employee. The maximum amount of earnings considered in calculating the contribution is set at 660 deutschemarks per month. The average contribution is 8½ per cent.

The method of supply and distribution of drugs is laid down in contracts between the health insurance fund and the druggists' union. The prices of drugs are determined by a central board on principles set out in regulations. The contracts with the druggists contain detailed instructions regarding fixing of prices and distribution of drugs. The drug companies are required to grant a discount of 7 per cent on all drugs paid for by the health insurance funds.

The funds' payments for drugs, medicines, and false teeth (they are combined in the statistics) in recent years were, in million deutschemarks: 1950, 438.2; 1953, 746.4; 1954, 769.8; 1956, 938.5; 1957, 1,095.4; and 1958, 1,469.0.

APPENDIX A

Some Implications of Legalized Substitution of Prescribed Pharmaceuticals

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VIEWPOINTS

Some Implications of Legalized Substitution of Prescribed Pharmaceuticals

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ABSTRACT

In April 1962 the Alberta Government passed legislation permitting a pharmacist to substitute drugs on a written medical prescription unless the doctor indicated otherwise. The intent was stated to be in the interests of cheaper drugs for the people of Alberta. The legality of this legislature has been questioned in Federal courts of law. The legislation has been formally criticized by the official representatives of medicine and pharmacy on the ground that indiscriminate substitution of drugs is not in the public interest until such time as the quality of all available drugs is assured by governmental or other authoritative agency. It is not within the function of the Food and Drug Directorate to guarantee the quality of drugs sold in Canada, this assurance normally being provided in the trade mark adopted by the manufacturer.

THE enactment of legislation by the Government of the Province of Alberta making drug substitution legal in that province was completed in April 1962 with little comment from the pharmaceutical and medical professions. In view of the implications of the changes made in the Alberta Pharmaceutical Association Act, the seeming aquiescence at that time on the part of the two major groups involved is paradoxical. This is particularly true of the medical profession, which has much to lose and little to gain from such legislation.

Bill 107 amends the Alberta Pharmaceutical Association Act to read as follows:

> "Where a prescription refers to a drug or drug combination by a brand name or a name other than its generic name, a pharmaceutical chemist, in dispensing the prescription, may use a drug or drug combination which is the generic or brand name equivalent of that named in the prescription unless the prescriber indicates otherwise
> (a) by designating the name of the manufacturer, or
> (b) by specifying that no equivalent is to be dispensed."

The amendment to the Act, which is now known as Section 45, permits a pharmacist in Alberta to substitute the product of any company for that prescribed by the physician. Such substitution may be made with a preparation sold under either trade name or generic name, without recourse to the prescribing physician unless that physician has included on his prescription the manufacturer's name, or the words or abbreviation for "No equivalent."

It is noted that Bill 107 received first reading on March 23, 1962, and that its passage through the Legislature required no more than 10 days. On April 5, 1962, with the assent of the Lieutenant-Governor, it became law. During the same period the attention and efforts of organized medicine were directed towards the impending issues raised by the Government of Saskatchewan, and to the hearings of the Royal Commission on Health Services.

These facts serve to explain in part the lack of medical comment on legislation which is an indirect infringement on the practice of medicine and an action of dubious merit for the stated good of the people of Alberta.

At the same time, the seeming acquiescence of the physicians of Alberta towards the projected changes in the law may have been due to the general unawareness of any intended change in the legislation. There seems to be some doubt whether the medical profession in Alberta was adequately consulted before its representatives informed the Minister of Health of Alberta of the agreement of the profession in the principle underlying legalized substitution.

Medical Reaction

The passage of Bill 107 was noted in the medical press. In the May 26, 1962 issue of this Journal, attention was drawn to the new law and the question raised whether the interest of patient and doctor would be adequately served by conferring discretionary powers on the pharmacist in the choice of medication to be received by the patient.

Editorial comment in the May issue of *Applied Therapeutics* included parts of the report on the "Committee on Cost of Prescribing" to the Ministry of Health (U.K.) 1959. Section 331 of that report concludes as follows:

*Chairman, Medical Section, Canadian Pharmaceutical Manufacturers Association.

"It is unfair, in our opinion, to impose on the pharmacist the onus of substituting an equivalent preparation for the one prescribed. The term 'equivalent' may be used in two different senses. It may imply identical equivalent, where the identity is susceptible to proof by chemical methods, but even with products containing identical therapeutical substances there may be pharmaceutical variations. The term 'equivalent' may also imply a therapeutic equivalent which can only properly be decided by the prescriber. Pharmacists should not be expected to take the responsibility of deciding on the equivalent, and representatives of retail pharmacists have told us that they would not wish to accept this responsibility. Indeed, it is possible that such substitution might lay a pharmacist open to legal action by the manufacturer of the product originally prescribed even if the substitution were based on a list of equivalents."

Reaction to the Alberta legislation on the part of organized medicine included resolutions by the Executive Committee of the C.M.A., and by the Quebec Division of the C.M.A. At the Ninety-fifth Annual Meeting of The Association in Winnipeg, the Executive Committee of the C.M.A. passed the following resolution:

"That this Executive Committee deplores legislation which enables a pharmacist to dispense a drug other than the exact one prescribed, until such time as control of the quality of drugs is improved."

The resolution passed by the Quebec Division of the C.M.A. at the annual meeting held in Montreal on May 12, 1962, was as follows:

"Be it resolved that C.M.A. (Quebec Division) unconditionally opposes any interference or modification of the right of its members to prescribe, and particularly the nefarious practice of substituting products on medical prescriptions. The Association authorizes its secretary to communicate with the Honourable Minister of Health to reiterate the position of the Quebec Division on this matter."

Subsequently, La Société Médicale de Montréal and the College of Physicians and Surgeons of Quebec took similar action.

Pharmacy Reaction

To what extent the pharmacists of Alberta will avail themselves of the freedom and the responsibility implicit in the amendment is not yet known. In *Drug Merchandising*, May 1962, Donald Cameron, Registrar of the Alberta Pharmaceutical Association, made the following statement:

"Now that Bill 107 is law, what will be its effects? The Government's hopes that it will in time reduce the cost of drugs to the people of Alberta, are not ratified generally.

"To be felt, the Bill requires the full co-operation of doctors and pharmacists. Since this is an almost impossible feat, it is not expected that Bill 107 will drastically change the province's present prescribing habits, at least not in the near future."

From a legal point of view the responsibility of the pharmacist will be greatly increased. At the present time, legal liability is shared between the prescribing physician, the pharmacist and the manufacturer. In the event of substitution by the pharmacist, he would incur the responsibility normally assumed by the physician.

The second legal point is related to the principle of private property rights. Inasmuch as these rights are granted under the Canadian Trade Mark Act, the question raised by the Alberta legislation is whether Bill 107 will have a nullifying effect on that right.

The legality of the Alberta legislation has already been tested in an action brought before the Exchequer Court of Canada on May 17, 1962, by one of the pharmaceutical companies against a pharmacist of Alberta who had substituted on a prescription of a trade-name drug of that company. The action was settled against the pharmacist. The permanent injunction now in force against the druggist prohibits further substitution of the drug in question, and appears thereby to deny any protection from Federal courts to a pharmacist substituting on a trade-name prescription in Alberta.

By the act of substitution, whether legally permitted or not, the pharmacist assumes part of the responsibility that pertains to the physician. This responsibility is both legal and medical. However well qualified the pharmacist, he cannot avoid encroaching on the basic confidence between doctor and patient when he takes it upon himself to replace the judgment of the physician by his own.

At the annual meeting of the Canadian Pharmaceutical Association held in Vancouver, August 10-16, 1962, representatives of the pharmacists of Canada passed the following resolution:

"Be it resolved that the Canadian Pharmaceutical Association express its opposition to such legislation (legalized substitution) by any government until such time as the federal authorities or other properly constituted and authoritative agency is in a position to assure medical and pharmacy practitioners and the Canadian public that medicinal preparations individually and/or *in toto*, manufactured in Canada or imported, meet proper standards of purity, quality control, label potency and therapeutic availability, and that this resolution as well as this Association's full statement concerning this matter be directed to the Honourable, the Minister of National Health and Welfare of the Government of Canada and to each provincial constituent organization of the Association for presentation to the government of their respective provinces."

Implications of Substitution

The proponents of the Alberta legislation have argued that the amendment does not infringe on the rights of the prescribing physician, in that the physician can, if he wishes, ensure that his patient receives the exact drug he orders. According to the law, this is true so long as the physician in-

cludes, after the name of the drug, either brand name or generic name, the name of the manufacturer, or writes "No Equivalent" (NE) on his prescription for a brand-named drug. If the physician fails to take either of these alternatives, his patient may receive a drug from any of various sources, each of which may differ from pharmacy to pharmacy, and even within the same pharmacy from time to time.

The argument that the physician in Alberta may still be permitted the freedom to prescribe as he wishes, though true, is of less relevance than might appear on the surface. What has been directly affected is not the prescription rights of the medical profession but the dispensing rights of the pharmacist. The two issues are closely related in that the one represents the instance, and the other the principle which supports it. Throughout Canada, with the present exception of Alberta, the positive right of the doctor to prescribe the exact medication of his choice for his patient grows out of the law which decrees that no other person shall have the right to alter or in any way interfere with that decision. In other words, the positive right exists within a positive law. What now obtains in Alberta is that the doctor enjoys a positive right within a negative law, an anomalous situation to say the least.

A parallel has been drawn between conditions now in force in Alberta and conditions in many Canadian hospitals where substitution is practised on a restricted scale. The parallel is less exact than it may appear.

Within the framework of a hospital, where some drugs are purchased from so-called "generic" manufacturers or distributors, the pharmacists or members of the Pharmacy Board have taken upon themselves the responsibility, consciously or otherwise, of vouching for the purity and quality of drugs, a responsibility normally borne by the manufacturer whose trade name is, in effect, such a guarantee. This practice, common within a narrow range of drugs, provides some assurance to the medical staff of the hospital, whose patients may receive a drug other than that which has been prescribed. Within a retail pharmacy no such check exists. In effect the risk to the patient taking a drug from a source possibly unknown could be unlimited.

The balance of cost against risk has led some hospital authorities to conclude that the savings effected by buying cheaper drugs do not offset the lack of quality guarantee. Following a survey of drug purchasing practices at the Humber Memorial Hospital in Weston, Ontario, the following conclusion was reached by the Board:

"The Humber Memorial Hospital is remaining constant in the use of trade-name products for the majority of its dispensing. It is our opinion that competitive drugs should not be purchased by a consideration of only the cost factor—quality is the most important consideration. And, with generic products it is felt that further cost is expended through the necessity for commercial testing of the products concerned."

The Quality of Drugs

Dr. C. A. Morrell, Chief of the Food and Drug Directorate, was quoted in *The Globe and Mail*, Toronto, August 18, 1960, as follows:

"When it comes to buying top-quality drugs, the things to check are the ability, facilities, personnel and conscience of the drug manufacturer. Neither a brand name nor a drug's generic name is the sole reliable guide to quality. The real point is who makes the drug and how it's made—the control system that ensures careful and scientific testing for potency and stability."

Unfortunately, because a majority of doctors are not well informed concerning the function and organization of the Food and Drug Directorate, it has been suggested that all batches of drugs should be checked and, as it were, given a stamp of approval by this government agency. While the government can ensure that manufacturers meet a certain minimum standard—through licensing and regular inspection—it is within neither the function nor the ability of government to guarantee the purity and efficacy of every batch of every drug manufactured and sold in Canada. Not only would the cost of such inspection and testing be prohibitive—assuming that the necessary staff could be recruited—but the final result would not attain the desired end. It is one thing to test for potency and stability by known chemical methods; it is another to test for therapeutic efficacy or equivalency. As stated by Lozinski[1]:

"Different brands of products, although similarly labelled with respect to active ingredient content, may not provide similar physiological responses. *In vitro* data cannot be used to interpret that which may happen *in vivo*."

That the Food and Drug Directorate has a vital role to play in the control of drug standards in Canada is clear. Changes in the relevant legislation increasing the authority of the Directorate in matters of licensing and inspection could provide a logical step in the right direction. At the same time it should be borne in mind that quality cannot be legislated into a drug any more than it can be legislated into a physician. The standards in the development of each are all-important, and the assurance in the brand name of a drug is, like that of a reputable medical school, no more than a reflection of basic standards.

In testimony before the Federal Government's Restrictive Trade Practices Commission, Dr. C. A. Morrell stated:

"I don't know if the Food and Drug Directorate should act as a control laboratory for all people who want to manufacture pharmaceuticals in Canada. I don't think that is our function. If you want me to analyze every batch of a drug or pharmaceutical sold in Canada, I think it would be an astonishing number [of inspectors]."

The ensuring of the quality and the therapeutic efficacy of a drug is a responsibility shared by the manufacturer, the physician, the pharmacist, and the government. While extension of governmental licensing and inspection authority may serve to improve the minimum standards on drug manufacture, the ultimate authority is pharmaceutical and medical. Within this framework legalized substitution has no place.

Conclusion

From a medical point of view it might be said that the profession has been at least acquiescent in the passage of Bill 107 in Alberta. The general feeling seems to be that the trial balloon in Alberta can be watched for a period of time to see what effect it has upon prescribing habits and drug uses. The assumption that legislative bodies in other provinces will remain quiescent for the same period of time incurs the risk now common in all matters pertaining to health care.

The forthright action of the Executive Committee of the C.M.A. and of the Quebec Division of the C.M.A. in opposing the concept of legalized substitution has had the effect of maintaining medical control in medical hands. Equal vigilance on the part of other Divisions of the C.M.A., as well as that of individual physicians, will be necessary to ensure that the positive right of a medical decision arises not *in vacuo*, as per Bill 107 in Alberta, but on the foundation of durable tradition supported by law. That the issue of legalized substitution will not remain confined to Alberta unless checked by both medical and pharmacy professions is evident from the interest expressed in the principle in other parts of Canada.

In Newfoundland, the Federation of Labour presented a brief to the Newfoundland Pharmaceutical Association claiming that the interests of the public were not being served by the use of brand-named drugs. In rejecting the brief, the Registrar of the Pharmaceutical Association, J. J. Harris, claimed that druggists must fill prescriptions with the exact drug specified by the doctor and have no authority to substitute the less expensive generic form of the product. "In most cases," Mr. Harris said in an interview with the *St. John's Evening Telegram*, "doctors prescribe brand-named drugs because they are well known and the quality can be relied on."

It is clear that from a political point of view the expedient of lowering the cost of health care enjoys popular support. The issues of health care are not, however, decided on the basis of cost alone; and it would appear that legislation such as that of Alberta, condemned by both medical and pharmaceutical associations, is not in the ultimate interests of the people.

As the law now stands in all provinces in Canada, a physician may prescribe by generic name if he wishes to do so. Many physicians do, in fact, use the generic name of a drug, often with the assurance of a hospital pharmacy committee or a pharmacist of the quality of the drug being dispensed. On the other hand, those physicians who wish to prescribe by brand name are assured by law, in all provinces with the exception of Alberta, that the medical decision reflected in that prescription is not altered by substitution at the level of the pharmacist.

The interest of the Government of Alberta in seeking means to reduce the cost of drugs to the people of that province is to be commended. It must, however, be borne in mind that the issues of health are seldom decided on the cost factor alone, and that until adequate methods are available to assure the quality and efficacy of *all* drugs reaching the Canadian public, makeshift measures such as those adopted in Alberta earn the acclaim of no responsible group within the professions of medicine and pharmacy.

Reference

1. Lozinski, E.: *Canad. Med. Ass. J.*, **83**: 177, 1960.

Résumé

En avril 1962 sous prétexte d'abaisser le coût des médicaments, le gouvernement de l'Alberta a adopté en dix jours la loi 107. Ce décret permet au pharmacien de substituer de son propre chef un produit pour un autre sur toute ordonnance médicale à moins qu'elle ne comporte une interdiction explicite de la part du médecin qui l'a rédigée. On a mis en doute au niveau fédéral la légalité de cette mesure. Elle a de plus suscité une opposition assez vive au sein de sociétés médicales d'autres provinces qui ne tiennent pas à voir chez elles de loi semblable porter atteinte au libre exercice de la médecine. En effet, des critiques émanant de sources officielles dans les milieux médicaux et pharmaceutiques ont été formulées à l'effet que dans le domaine des médicaments une substitution non judicieuse peut représenter une menace à la population tant que la qualité respective des produits sujets à la substitution n'aura pas été garantie par le gouvernement ou quelqu'autre agence habilitée dans ce sens. Or la garantie de qualité n'est pas du ressort du Directorat des Drogues et Aliments; elle est normalement fondée sur la marque de commerce du manufacturier.